April 23, 2007

Marlene H. Dortch, Commission Secretary
Federal Communications Commission, Office of the Secretary
445 12th Street, SW
Washington DC 20054

Re: FCC Notice of Proposed Rulemaking In the Matter of Effects of Communications Towers on Migratory Birds, WT Docket No. 03-187; FCC 06-164

Dear Federal Communications Commission:

These comments are submitted on behalf of American Bird Conservancy, Center for Sustainable Economy (Formerly Forest Conservation Council), National Audubon, The Humane Society of the United States, and Friends of the Earth in response to the FCC Notice of Proposed Rulemaking In the Matter of Effects of Communications Towers on Migratory Birds, WT Docket No. 03-187, FCC 06-164, as published in the Federal Register of November 22, 2006, Volume 71, Number 225, at pages 67510-67518. The Notice of Proposed Rulemaking (NPRM) seeks comment on whether the Commission should take measures to reduce the number of instances in which migratory birds collide with communications towers.

There are more than 170,000 communication towers, also known as antenna structures, around the U.S. and at least 86,000 of these exceed 200' in height and are lit. See data in *Fryer's Site Guide*, now *TowerSource* (2002 data attached). Collectively, these towers present a significant threat to birds, particularly night migrating neotropical birds.

I. PRIOR COMMENTS AND DELAYS IN FCC ACTION.

The undersigned groups and other conservation and scientific groups have submitted detailed comments to the FCC on these same matters on many occasions over the last eight years. We submitted formal detailed comments to the FCC on November 11, 2003 commenting on the FCC Notice of Inquiry (NOI) on Migratory Bird Collisions with Communication Towers and Birds in WT Dkt. No. 03-187. The FCC Chairman had announced plans to conduct this NOI in May 2003 during the pendency of one of our court suits against the FCC for inaction on our Gulf Coast petition. The FCC then took until August 2003 to formally propose its NOI–and has yet to conclude the NOI.

On February 14, 2005 we again submitted formal detailed comments on the Avatar Environmental, LLC Report which the FCC had authorized to summarize the comments on the NOI Regarding Migratory Bird Collisions with Communications Towers, WT Dkt. No. 03-187. The comments on the NOI had concluded in December 2003 and Avatar was retained in May 2004 to review those comments. Our comments on February 14, 2005 were accompanied by a detailed Report

completed by scientists at Land Protection Partners. We then submitted reply comments to the FCC on this Avatar Report matter on March 9, 2005, supplemented with another detailed Report completed by scientists at Land Protection Partners. We request that these comments and reports be incorporated by reference with our comments on the NPRM and we are again providing copies of these documents to the FCC.

Prior to the issuance of the NOI by the FCC in August 2003 and the submittal of our comments, we had provided FCC Commissioners and their staff and various bureau staffers with extensive information beginning in 1999 indicating that communication towers are a significant and continuing source of mortality to migratory birds and detailing the preventative measures the FCC should take. The U.S. Fish and Wildlife Service has done the same in letters to the FCC Chairman and in meetings and briefings, also going back to 1999. See e.g., Letter from Jamie Rappaport Clark, Director, FWS to William Kennard, Chairman, FCC (Nov. 2, 1999).

On July 22, 1999, ABC met with Thomas Power, then Counsel to former FCC Chairman Kennard and made a full presentation on tower kills of birds and the need for FCC reformation of tower registrations and approvals. We pointed out the necessity of the FCC conforming to and meeting the requirements of the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), and the Migratory Bird treaty Act (MBTA). A letter was sent as a follow-up to the meeting to Chairman Kennard and Mr. Power urging action.

On August 11, 1999, ABC was a co-sponsor of an Avian Mortality at Communications Towers Workshop at Cornell University in Ithaca, NY. FCC representatives were present and Holly Berland, an attorney with the FCC, made a presentation. This public workshop was specifically intended to focus on the problem, the research, and the solutions. A U.S. FWS representative made a public presentation with Holly Berland present on why the FCC is NOT categorically excluded from NEPA on bird kills at towers.

On August 24, 1999, ABC, National Audubon Society, Defenders of Wildlife, and the Ornithological Council, together with the U.S. FWS met with a large group of FCC officials at FCC headquarters arranged by Rebecca Dorch (FCC) at ABC's request and attended by Holly Berland and at least eight other FCC officials. Specific requests were made for FCC reforms to resolve the problem of avian mortality at communication towers.

We will not further detail the numerous and extensive contacts and presentations we have made to the FCC over the last eight years, both before and after the Notice of Inquiry on Towers and Birds was issued, but we have a chronological summary of our efforts with the FCC to document the extent, causes, and solutions to bird kills

at communication towers and to gain actions to prevent this mortality that we will provide upon request.

We also have filed notices of objections to the registration of individual towers with the FCC beginning on September 2, 1999 when ABC and Hawk Mountain Sanctuary file a detailed petition against the construction of a new cell antenna tower near Hawk Mountain, Kempton, PA. We requested a programmatic EIS and full compliance with NEPA, MBTA, and ESA. The Petition raised the need for reform of the FCC tower registration and NEPA review process. The FCC ordered a stop to the tower construction pending FCC review of the Petition. The FCC failed to respond to the petition until January 2002, when ABC received a call from FCC staff asking the status of the tower and requesting the applicant tower company's phone number. The FCC then dismissed the Petition as the tower company had withdrawn its plans for construction.
In a letter dated November 2, 1999 to the Chairman of the FCC from the Director of the Department of Interior's U.S. Fish and Wildlife Service (FWS), the Director urged the FCC to conduct a NEPA programmatic EIS on the tower registration program to examine the extent of avian mortality, the causes, and the solutions. The Director advised the FCC in this 1999 letter that the annual killing of migratory birds at communication towers was substantial and she pointed out the deficiencies in current FCC regulations that we have noted repeatedly before. She further noted that "The cumulative impacts of the proliferation of communication towers on migratory birds, added to the combined cumulative impacts of all other mortality factors, could significantly affect populations of many species." Letter from Jamie Rappaport Clark, Director, FWS to William Kennard, Chairman, FCC (Nov. 2, 1999).

The U.S. FWS filed comments on this FCC NPRM dated February 2, 2007 that were signed by Acting Deputy Director Kenneth Stansell. The FWS comments state: "Neither the individual impacts of a tower nor the cumulative impacts of all communication towers are included as part of the NEPA review process. The Service first raised this concern in 1999 at a public workshop on avian collisions at towers held at Cornell University (Willis 1999). More recently, we have raised it at all meetings of the Communication Tower Working Group, in a Service briefing for FCC staff, in a Service briefing for the senior legal advisors to the FCC Commissioners, and in the NOI."

Despite this urging by the governmental agency tasked by law with the conservation of migratory birds, the FCC has persisted in its refusal to comply with NEPA and other statutes and has failed to complete a programmatic EIS.

On September 14, 2000, the U.S. FWS issued its Guidance Document on the Siting, Construction, Operation and Decommissioning of Communications Towers. A copy of that document was provided the FCC in September 2000 and has been repeatedly

discussed with the FCC since September 2000. The Towers and Birds NOI mentions these Guidelines. In issuing the Guidelines, the U.S. FWS Director repeated concerns that the "The construction of new towers creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. Communication towers are estimated to kill 4-5 million birds per year, which violates the spirit and intent of the Migratory Bird Treaty Act and CAR Part 50 designed to implement the MBTA. Some of the species are also protected under the Endangered Species Act and Bald and Golden Eagle Act."

The Director noted that "These guidelines were developed by Service personnel from research conducted in several eastern, Midwestern, and southern states, and have been refined through regional review. They are based on the best information available at this time, and are the most prudent and effective measures for avoiding bird strikes at towers. We believe that they will provide significant protection for migratory birds pending completion of the Working Group's recommendations. As new information becomes available, the guidelines will be updated accordingly."

On November 20, 2000, the U.S. FWS Director wrote to the FCC Chairman, attaching the Guidelines and urging the Chairman to "....make the interim guidelines available to all applicants requesting Federal communication licenses, in order to distribute the information more widely among the....industries." The Director noted that the Guidelines represent "the best measures available for avoiding fatal bird collisions" and "While there is a considerable body of research available on bird strikes at towers and the measures which can be taken to avoid them, this knowledge is not widely known outside the academic community....We believe that widespread use of these guidelines will significantly reduce the loss of migratory birds at towers." See the attached FWS letter and Guidelines.

The U.S. FWS, scientists, conservationists, and the undersigned have cited these Guidelines repeatedly to the FCC and have urged the FCC to adopt them in their current system of authorizing, licensing, approving, and registering communication towers. Despite the urging by the FCC acknowledged bird experts at the FWS and others experts in bird migration and tower kills, the FCC has refused to adopt the Guidelines or any part of them in its system of authorizing, licensing, approving, and registering communication towers. In fact, the FCC has done nothing to change the existing system to better protect birds. A number of counties and municipalities have adopted the FWS Tower Guidelines. For example, both Brevard and Leon Counties, Florida have adopted ordinances requiring compliance with the FWS Guidelines.

When the FCC continually refused all interventions of scientists, conservationists, and the U.S. FWS to incorporate measures to prevent avian mortality into its tower program, we filed a formal Petition with the FCC on August 26, 2002, requesting actions to prevent avian mortality from towers in the Gulf Coast region. The FCC

failed to respond to this Petition, and we next filed suits seeking a response. Finally, after failing to respond to our petition for more than 3 years and 7 months, and just after oral arguments before the U.S. Court of Appeals for the DC Circuit on our suit, on April 11, 2006 the FCC acted to dismiss our Gulf Coast Petition and agreed to publish the NPRM now before us. In May 2006 we appealed the dismissal and this case is pending before the U.S. Court of Appeals for the DC Circuit.

On April 9, 2004, we filed an Endangered Species Act 60-day letter notifying the FCC of our intent to sue over tower registrations in Hawaii affecting ESA-listed birds. When the FCC failed to comply with the ESA violations, we filed suit on July 26, 2005 in Federal District Court in Hawaii. The FCC defended by alleging that the District Court did not have jurisdiction, despite the ESA's requirements for citizen suits to be filed in District Court. The Court ruled in favor of the FCC and dismissed the case on jurisdictional grounds on January 4, 2006. We have since filed an appeal and it is pending before the U.S. Court of Appeals for the 9th Circuit after the parties submitted detailed briefs. In the meantime, on March 5, 2007, the U.S. FWS wrote to the FCC recommending that the FCC begin formal consultation with the FWS under Section 7 of the ESA concerning the construction of seven Hawaiian towers included in our suit.

These efforts to have the FCC adopt measures to prevent millions of unnecessary bird deaths each year at communication towers registered by the FCC are detailed here to document that the FCC has refused for more than eight years to act to change any policy or rule regarding its antenna registration program so as to protect migratory birds. This is despite the urging by both the U.S. FWS (the governmental agency tasked by law with the conservation of migratory birds), scientists, and the conservation community, the documentation of avian mortality at towers, the documentation of the causes and solutions, the urging of the U.S. FWS by letter dated November 2, 1999 to the Chairman of the FCC to conduct a NEPA programmatic EIS on the tower registration program and migratory bird impacts and solutions, the issuance in September 2000 by the U.S. FWS of Guidelines to prevent the mortality, the NOI on Towers and Birds issued in August 2003, the Petitions, law suits, and the notice of objections filed to individual towers.

In our comment on the FCC NOI submitted on November 11, 2003, we stated: "The FCC NOI appears to be another FCC delaying tactic designed to prevent the FCC from changing the status quo under which millions of migratory birds are illegally killed at communication towers while the FCC permits the construction of thousands of new towers and the operation and re-registration of tens of thousands of existing towers. There are no time limits for the completion of the NOI and no proposed actions to benefit birds and prevent the annual killing of millions of birds. The NOI could proceed indefinitely, thus providing another convenient excuse to continue the FCC's years of delays in addressing the killing of millions of migratory birds at towers. The NOI process falls completely short of required NEPA compliance and, indeed, appears to be yet another delaying tactic that prevents the FCC from making necessary changes to protect migratory birds and change the status quo. The FCC should comply with NEPA by issuing a programmatic environmental impact statement concerning the impact of communication towers registered by the FCC on

migratory birds and the causes, and propose solutions, and also by reforming the agency's categorical exclusion policy so that citizens can participate in the NEPA process."

We note that the NPRM before us continues the FCC's long pattern of avoiding compliance with environmental statutes in its tower registration program and regulations and continues the *status quo*. In fact, the NPRM does not even propose to adopt any particular rules, but instead initiates yet another round of public comment, the effect of which is to stall agency action to comply with environmental statutes and to protect migratory birds as required by statute.

The FCC has carried on this pattern of delay and avoidance for far too long, beginning in 1999, continuing with the FCC's August 2003 Notice of Inquiry, and now with this Notice of Proposed Rulemaking that proposes no new rules. The NOI of August 2003 raised nearly identical issues that the FCC is again requesting comments on in this NPRM. During this nine year period of delay, significant numbers of migratory birds are killed annually by collisions with communication towers and related structure in violation of the MBTA, NEPA, and the ESA.

Indicative of the long stall and interminable delays by the FCC is the FCC attorneys' written brief of August 4, 2005 in response to our mandamus petition seeking FCC action on our Gulf Coast petition, then pending before the U.S. Court of Appeals for the DC Circuit. In an effort to gain dismissal of our requested action, the FCC attorneys told the court that "The Commission's staff is now studying those comments studies and reports [under the NOI] with a view toward recommending appropriate action by the agency. Furthermore, the Commission's staff expects that the agency will be in a position to act by the end of the year on the specific petition that is the subject of the mandamus petition before the Court. In these circumstances, where the agency is in the process of addressing a complex and hotly contested issue, there is no justification for the issuance of a writ of mandamus."

The pledge succeeded in gaining another reprieve for the FCC from acting as the Court stayed proceedings for 90 days, until February 2006. When by February 2006, the FCC again failed to act on our Gulf Coast petition or the NOI, our attorneys were forced to go back to the Court and oral arguments were set for April 6, 2006. The day before these oral arguments, the FCC attorneys advised the Court that the FCC had docketed our Gulf Coast petition for the following week in April, and the FCC acted to dismiss our Gulf Coast petition on April 11, 2006, and agreed to begin the NPRM process. In the April 11, 2006 Order, the FCC noted that: "The Commission has not yet completed its review of the scientific evidence presented in the Migratory Bird NOI docket and has not yet made any conclusions concerning that evidence." Thus, three years and 9 months have passed since the FCC began the NOI towers and birds process and, despite pledges to complete the NOI process, the FCC still has not completed the process or made any determinations under that process.

Instead, the FCC took until November 22, 2006 to publish the current NPRM in the Federal Register. Again, despite the passage of many years of delay and a futile NOI process, the FCC in its NPRM proposes no new rule or rules and no specific changes in the tower registration program. The NPRM instead posits some of the same questions as the NOI posited 3 years and 9 months ago. The NPRM has set no timeline for the adoption of any rule or change in the FCC tower registration process that would resolve the issue at hand–the killing of millions of migratory birds each year at FCC registered communication antenna tower structures.

Given the FCC history of failing to act to resolve this issue, we must again express grave concerns that since the NPRM has no proposed rules and no time limits for the FCC to act, the FCC NPRM could proceed indefinitely, thus providing another convenient excuse to continue the FCC's years of delays in addressing the killing of millions of migratory birds at towers. We would urge the FCC to act promptly after the reply comment period ends on May 23, 2007, especially in light of the recent definitive studies conducted in Michigan and published by Gehring and Kerlinger and the other research and data provided herein.

In comments filed by individual Commissioners in the FCC April 11, 2006 action on the Gulf Coast petition and the proposal to prepare a NPRM, Commissioner Michael J. Copps stated: "There is simply no question that bird-tower collisions are a serious problem. The U.S. Fish and Wildlife Service tells us that millions of birds, perhaps as many as 50 million, die each year through such accidents. That is a sobering conclusion coming from the federal agency with the greatest scientific expertise when it comes to wildlife conservation and primary responsibility for protecting migratory birds. The situation imposes a grave responsibility on ***this*** agency, too, because of our important jurisdiction over tower painting and illumination – a responsibility to make sure that our rules and practices do not contribute to a needless toll of bird deaths. The Commission could have faced up to this problem years ago. Put bluntly, for too many years this agency treated a widely-recognized problem with not-so-benign neglect. Now we have learned, I hope, that this is not a problem that will just go away if we ignore it. Instead, we need to face up to the hard questions and resolve them in a timely and effective fashion.

We are not faced here with an all-or-nothing choice. Communications towers are essential to modern American life, we all understand that. Without them, we could not watch television, listen to the radio, make cell phone calls, or enjoy the next generation of wireless broadband services. But even as the Commission fulfills its mission to facilitate all these exciting and important technologies, we must also be mindful of the effects we have on the nation's fragile ecosystem.

The industries we oversee are backbone industries with effects felt far and wide, including on our environment. We need to be proactive on ecological preservation, instead of being perceived, as we are by some, as anti-environment or, at best, as some kind of "reluctant environmentalist" dragged kicking and screaming into the Twenty-first century. This kind of agency involvement is something I have pushed for since I arrived here at the Commission in 2001. So I am pleased we are moving in that direction. And I believe that through hard work and a willingness to learn from both conservationists and tower operators, we will find ways to continue encouraging communications technologies while at the same time minimizing ecosystem costs, such as the high avian death toll we have been witnessing. I believe our tentative conclusion about lighting systems represents a good first step in that direction, and I look forward to working with my colleagues to bring this rulemaking to conclusion in the weeks and months –

hopefully not years – ahead. Thanks to my colleagues, and to the Bureau, for their good work in developing this item."

We agree with Commissioner Copps that bird-tower collisions are a serious problem, that the FCC has a responsibility to make sure that its rules and practices do not contribute to a needless toll of bird deaths, that the Commission could have faced up to this problem years ago but for too many years this agency treated a widely-recognized problem with not-so-benign neglect, that the FCC needs to face up to the hard questions and resolve them in a timely and effective fashion, and that FCC action should be taken in the weeks and months, **not years**, ahead. Unfortunately, it has been more than a year since Commissioner Copps wrote these words and no action has been taken by the Commission to change the rules or better protect migratory birds. We again urge the FCC to act quickly and forthrightly to resolve this problem without in any way inhibiting the provision of telecommunication services.

II. ACTIONS REQUESTED OF THE FCC AND FCC AUTHORITY AND DUTY TO ACT.

Under the Communications Act of 1934, the FCC has broad authority to license and regulate communications facilities and the entities that use those facilities. 47 U.S.C. §§ 307(a), 303(e). The regulations differ considerably depending on the precise type of communication license sought. For example, wireless service providers (cellular telephone, paging, etc.) are issued a blanket authorization for a particular geographic region and are authorized to build towers anywhere in that particular area without the FCC regulating or reviewing the particular locations where tower will be built. 47 C.F.R. §§ 24; 26 et seq. By contrast, broadcast operators (television, radio, etc.) are required to obtain licenses for particular frequencies, and must obtain site-specific approval from the FCC for each tower prior to construction or modification. See 47 C.F.R. § 73 et seq.

Under section 303(q) of the Communications Act, the FCC is empowered to "require the painting and/or illumination of radio towers if and when . . . such towers constitute . . . a menace to air navigation." The FCC requires towers that are over 200' in height or are located near an airport to be constructed under an FCC license, and to be approved and registered with the FCC under its Antenna Structure Registration program. 47 C.F.R. §§ 17.4, 17.7. In addition, FCC regulations require towers to comply with various requirements relating to lighting, painting and siting relative to airports. 47 C.F.R. § 17.22. As part of the mandatory registration process, the FCC requires that certain towers display warning lights. 47 C.F.R. § 17.21; 17.23. Once a tower has been built, the FCC retains ongoing jurisdiction over the tower and the licensees who own or use the tower. See e.g., 47 C.F.R. §§ 17.4; 17.5.

Based on the Telecommunications Act of 1996 (TCA) and the above cited laws and regulations, based on current environmental statutes including the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), and the Migratory Bird treaty Act (MBTA), and based on the research and data submitted herein and previously submitted, and based on the U.S. FWS Tower Siting Guidelines, we believe the FCC has not only the authority, but the duty to act on the killing of birds at many of the 170,000 existing communication towers in the U.S. and to address migratory bird impacts in new tower approvals and registrations. We therefore recommend the following measures for adoption by the FCC under this NPRM to bring the FCC into compliance with federal environmental laws for existing and proposed new towers, and we urge the FCC to adopt new and amend existing rules, regulations, and procedures that will in no way adversely impact the provision of communication services in this country. These measures should provide that: :

1) An applicant for an antenna structure shall submit a written declaration to demonstrate why there is no viable opportunity for co-location of an antenna and that they cannot practicably keep a tower structure under 200', thus avoiding lighting requirements in order to better protect migratory birds. The declaration shall contain documentation that other structures have been examined in a five-mile radius of the proposed antenna structure and that these could not practicably be used for the new antenna and why they could not be used. The applicant for an antenna structure also shall submit a written declaration to document why a proposed new antenna structure could not be kept to a maximum height of less than 200' AGL to avoid lighting requirements.

2) An applicant for an antenna structure shall design all new towers structurally and electrically to accommodate the applicant's antenna(s) and comparable antennas for at least two additional users for a minimum of three users for each tower structure, unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.

3) If a new antenna tower structure must be built, and if the structure cannot practicably be kept under 200', the FCC shall require that medium intensity white strobe lights for nighttime conspicuity is to be considered the preferred system over red obstruction lighting systems to the maximum extent possible without compromising safety. See the April 6, 2004 Memorandum from the FAA Program Director for Air Traffic Airspace Management. These medium intensity white strobe obstruction lights for nighttime conspicuity for pilot safety are designated for use by the FAA as L-865 flashing lights in FAA Advisory Circular (AC) 70/7460-1, Obstruction Marking and Lighting, Chapter 6. The pulse rate should be kept as close to the FAA minimum requirement of 40 flashes per minute as reasonably possible, and the lights shall flash simultaneously.

4) In cases where the antenna tower is to be located in urban/populated areas, within three nautical miles of an airport, or where for other reasons of aviation safety or zoning requirements use of L-865 white strobe lights for night time conspicuity is not possible, and the applicant demonstrates such, medium intensity red strobe lights shall be used exclusively. These medium intensity red strobe lights for nighttime conspicuity for pilot safety are designated for use by the FAA as L-864 flashing red strobe lights in FAA Advisory Circular (AC) 70/7460-1, Obstruction Marking and Lighting, Chapter 5. The pulse rate should be kept as close to the FAA minimum requirement of 20 pulses per minute as reasonably possible, and the lights shall flash simultaneously.
5) The use of steady-burning red obstruction lights, FAA L-810, should be avoided.

6) Accessory structures at towers should not have steady burning exterior lighting shining up into the night sky, and such structures should not be lit unless required by the FAA or because of security considerations. All such lights should be shielded and kept to a minimal intensity. Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.

7) An applicant for an antenna structure shall submit a written declaration to demonstrate why the tower they propose for construction must be constructed to exceed 400' AGL. The declaration shall contain documentation that the tower height chosen is necessary for their provision of cellular, TV, radio, or other telecommunication services, and why a tower of a shorter height would not suffice.

8) Guy wires should not be allowed on any new antenna structure under 200' in height AGL, unless the applicant can demonstrate extraordinary circumstances. For any antenna tower that is to be between 200' and less than 500' AGL, the applicant should not use guy wires unless certification is submitted by a qualified engineer that the structure cannot practicably be built as a monopole or of lattice design. In considering practicability, the applicant must demonstrate that guy wires are necessary because the tower cannot be built as a monopole or lattice structure because of safety concerns, significantly higher costs, or due to other engineering factors that require the use of guy wires. The use of guy wires would also trigger an EA and review by the regional FWS office.

9) If a proposed new tower will use guy wires for support and the tower and guy wires are proposed to be located in a known raptor or waterbird concentration area or in raptor or an area of waterbird daily movement routes, or in major diurnal migratory bird movement routes or stopover sites, or on towers known to cause daytime avian mortality, the tower shall use effective daytime visual markers on the wires to prevent collisions by these diurnally moving species.

10) If at all possible, new towers should be sited within existing “antenna farms” (clusters of towers). If at all possible, towers should not be sited in or near wetlands,

other known bird concentration areas (*e.g.,* state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species. If at all possible, towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.

11) If significant numbers of breeding, feeding, or roosting birds are known to habitually use the proposed tower construction area, relocation to an alternate site should be recommended. If this is not an option, seasonal restrictions on construction may be required in order to avoid disturbance during periods of high bird activity.

12) If a tower is to be located in any area cited in Numbers 9) through 11) above, the applicant must submit documentation to the FCC as to why the tower cannot be located outside these areas and what measures have been taken in the tower construction such as height, lighting, and use of monopole construction to avoid bird impacts.

13) Towers and appendant facilities should be sited, designed and constructed so as to avoid or minimize habitat loss within and adjacent to the tower footprint. However, a larger tower footprint is preferable to the use of guy wires in construction. Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight.

14) 47 C.F.R. §1.1307 be amended to require that an applicant must review and evaluate, at least the following:
Is the proposed antenna structure located in a migratory bird corridor, on a ridge, near a wetland, or in or near a wildlife area such as a refuge or park, or in any other area that attracts migratory birds?
Is the proposed antenna structure to be constructed likely to cause any migratory birds, and specifically U.S. FWS Birds of Conservation Concern, to be killed at the structure?
Is the proposed antenna structure to be constructed and operated so as to avoid, or at least minimize, the likelihood of causing fatalities to migratory birds, and specifically U.S. FWS Birds of Conservation Concern?
Is the proposed antenna structure to be constructed with guy wires or with red steady burning pilot warning lights (L-810) for night time conspicuity?

If an applicant responds "yes" to either of the first two questions or question 4, or "no" to the third question, an EA would be triggered and the applicant shall submit the proposal to the regional office of the U.S. FWS for review and comment. The requirements for an EA are triggered if an applicant proposes to use either guy wires or red steady burning pilot warning lights (FAA L-810) for night time conspicuity. The new requirements for the avoidance measures detailed in items 1)

through 14) above should be applied to all towers, but in cases where migratory birds may be affected, the FCC should closely review the application and assure full compliance.

We note that the U.S. FWS filed comments on this FCC NPRM dated February 2, 2007 that were signed by Acting Deputy Director Kenneth Stansell. Those comments state: "Determining risk from communication towers to migratory birds and their habitats — and thus the need for future study and a possible EA — is very important. We recommend that the FCC through rulemaking require the development and use of a Tower Site Evaluation Form, similar to the one created by the Service that accompanied the 2000 tower guidance. The Evaluation Form should be developed by the FCC in consultation with the Service, industry, and the conservation community. Once completed, the FCC should require through rulemaking that the industry use, complete, and submit this form to the appropriate Service Field Office for review, allowing the Service to make a "'study or no-study"' determination and a recommendation for conducting an EA." We concur.

The U.S. FWS comments further proposes that "If the FCC is willing to establish an environmentally preferred industry standard and require the applicants to complete a Site Evaluation Form to be provided to the Service for review, we recommend a ninth category be added to the FCC's NEPA procedures at 47 CFR 1.1307(a) which should read as follows: '(9) Facilities that due to their proposed location and/or structural makeup (height, support, and lighting) may result in substantial risk of collisions by migratory birds and/or adverse modification of habitats supporting migratory birds. To ascertain whether a proposed action may affect migratory birds, an applicant shall complete a Site Evaluation Form and provide it to the U.S. Fish and Wildlife Service Ecological Services Field Office having jurisdiction for the area in which the facility is proposed to be located. If, after review of the Site Evaluation Form, the Service is of the opinion that the applicant has made all reasonable efforts to minimize the impacts of the proposed facility on migratory birds, including compliance with the Commission's environmentally preferred industry standards, the Service will advise the applicant of that fact. If, however, the Service is of the opinion that the applicant has not made all reasonable efforts to minimize the impacts of the proposed facility on migratory birds and that an EA should be prepared by the applicant for the facility, the Service will forward the Site Evaluation Form and the Service's recommendation to the Commission for its consideration and will alert the applicant of that action.'

The Service's NJFO has reported that, among others, very tall broadcast towers have often not been submitted for Service review. These have included towers at Corbin City (765 ft AGL), Little Egg Harbor (1,000 ft AGL, at a coastal site), and Bayonne (2,000 ft AGL, a key migratory pathway). In each case, the NJFO learned of these proposals from third-party or media sources rather than project proponents

or the FCC. When proposed tower projects are not submitted to a Field Office for review, there is the potential for towers to be built without the project proponent's full understanding of FCC responsibilities under MBTA, BGEPA, and ESA." We concur with these recommendations of the U.S. FWS and would urge their adoption as rules. If these FWS recommendations are not adopted, then at minimum we further recommend that item #15 below be adopted:

15) Each tower applicant should be required to provide documentation verifying a determination that no EA is required, and this should include a U.S. FWS regional office determination of whether any threatened or endangered species or Birds of Conservation Concern are in the area and the potential effects on such species, as well as a review by the regional office of the U.S. FWS of potential migratory bird impacts for each new tower, and whether the tower would be constructed and operated so as to avoid taking migratory birds. In revising the requirements for applicants under 47 C.F.R. §1.1307, the FCC should require that the potential take of any ESA-listed species and Birds of Conservation Concern are avoided by the adoption of the measures in items 1) through 14) above.

16) All existing registered antenna structures that employ red steady burning lights (FAA L-810) for night time conspicuity shall be required to phase in the FAA preferred white strobe lighting (FAA L-865) system to replace red steady burning lights. Existing towers that are both guyed and that use red, steady burning lights should be made priorities for retrofitting with white or red strobe or strobe-like lights. If replacement of the L-810 lights with white strobes (L-865) is not possible for reasons of aviation safety or zoning requirements and the registrant demonstrates such, then the use of L-864 red strobe or fast blinking lights for night time conspicuity shall be employed. This should occur when steady burning red lights (L-810) on existing antenna structures burn out and need to be replaced. All such towers shall terminate the use of red steady burning lights for nighttime use within five years of finalization of this rulemaking. If the existing antenna tower structure already employs white (L-865) or red strobe or fast blinking lights (L-864) exclusively for nighttime conspicuity, no changes need be made.
17) All owner/operators of communication towers shall be required to scientifically assess avian mortality at each existing tower that is more than 500' AGL during at least one spring and fall migration season if the tower is guyed, and if the tower still employs red steady burning aviation safety lighting for night time conspicuity. If the tower owner/operator agrees to switch the L-810 steady burning red lights to L-865 or L-864 lights, then the monitoring requirement can be waived.

New towers that exceed 300' and that use L-810 steady burning red lights at night and that are located where ESA-listed species or Birds of Conservation Concern species fly by should be required to be scientifically monitored during at least one spring and fall migration season for mortality if the towers are guyed and employ red steady burning red lights (FAA L-810) for night time conspicuity.

Reports of the avian fatalities at these towers from on-the-ground searches during spring and fall should be statistically adjusted for predator removal and searcher efficiency. These reports should be delivered to the FCC by the end of the calendar year in which they were conducted. The reports shall be available to the public.

18) Sufficient public notice shall be given by the FCC under 40 C.F.R. § 1506.6 or by the tower applicant of all new proposed antenna structures coming before the FCC for approval and registration. Notice should be provided so that the public is provided an opportunity to comment on all antenna structure registration applications, whether the Commission believes these decisions are categorically excluded from NEPA review or not. This notification shall conform to CEQ rules for public participation at Section 1507.3(a).

III. LEGAL BASIS FOR ACTION.

A. INTRODUCTION AND GENERAL RESPONSE TO LEGAL INQUIRIES IN THE NPRM.

Following are our responses to the legal inquiries posed in the NPRM that dictate the adoption of the measures outlined in Section II above. The FCC has requested comments on, among other legal issues, the nature and scope of its duty to comply with several conservation statutes, in particular the National Environmental Policy Act (NEPA), the Endangered Species Act (ESA), and the Migratory Bird Treaty Act (MBTA).

We must note here that the FCC legal inquiry in this NPRM continues the FCC's long pattern of avoiding compliance with environmental statutes in its tower registration program and regulations. These legal questions have been posited for years and answered for years. Surely, the dozens of attorneys at the FCC and the FCC Office of General Counsel can provide clear answers to these legal inquiries, and these questions should not be used as another excuse for delay. Absent from the NPRM is any proposed rule, and substituted are the same or similar legal questions the FCC has posited in the past with the same or similar questions on towers and migratory birds posited in the August 2003 NOI.

The NPRM raises legal questions that are inappropriate in this setting. Section 403 of the Communications Act governs FCC inquiries such as this NPRM. See. 47 U.S.C. §403. Under that provision, the FCC can request comment on matters that arise under the Communications Act. Id. The FCC's use of this NPRM to request comments on purely legal matters that do not arise directly under the Communications Act — such as whether the agency has a duty to comply with NEPA, the ESA, and the MBTA— is improper. As explained below, the FCC does not have discretion to ignore requirements under these statutes, thus the FCC's

request for comments regarding its duty to perform such requirements is inappropriate.

Moreover, the FCC has biased the NPRM against conservation interests by posing purely legal questions to the self-interested members of the regulated industry. Clearly, the FCC cannot premise its compliance with conservation laws on public comments, but instead must conduct its own unbiased legal assessment of the applicable conservation statutes and of FCC regulations, and amend the FCC rules as necessary to comply with the law. Nonetheless, we again shall detail clearly why the FCC is obligated to meet the requirements of this nation's basic environmental laws and how the FCC is failing to do concerning its antenna structure review, approval, and registration program.

B. THE FCC TOWER REVIEW, APPROVAL, AND REGISTRATION PROGRAM IS A FEDERAL ACTION AND IS COVERED BY NEPA, ESA AND MBTA.

The NPRM notes at paragraph 19 that some industry commenters argue towers do not trigger federal environmental statutes--"tower siting and construction are primarily private actions." This suggestion is without legal merit. Regardless of whether the actual construction and siting of the tower involve private actors, the FCC's tower review, approval, and registration program is a federal program that must comply with NEPA. See 40 C.F.R. §1508.18(a) (describing the "actions" that are covered by NEPA to include "continuing activities" and "programs"); and 50 C.F.R. §402.02 ("Action [under the ESA] means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies……. Examples include, but are not limited to…… the granting of licenses……."). The Communications Act, 47 U.S.C. §303(e), provides that the Commission "from time to time, as public convenience, interest, or necessity requires, . . . shall regulate the kind of apparatus to be used with respect to its external effects……". The FCC is authorized to suspend a license if the licensee violates any law that the FCC is authorized to administer. 47 U.S.C. §303(m). Thus, the FCC not only is authorized, but is required to comply with federal environmental statutes in connection with its tower licensing program and regulations.

Contrary to the contentions of the industry that seeks to maintain the status quo, the FCC acknowledges its authority and duties to act under NEPA and the ESA. In paragraph 33 of the NPRM, the FCC notes that: "In adopting its environmental rules, the Commission in accordance with its public interest responsibilities under the Communications Act, previously has determined that construction of communications towers requires compliance with environmental responsibilities under NEPA and the ESA. Moreover, although under our present rules we do not routinely require environmental processing with respect to migratory birds, the

Commission has considered the impact of individual proposed actions on migratory birds as part of its overall responsibility under NEPA. In order to fulfill its obligations under NEPA and the ESA, the Commission has promulgated rules to address such issues. We tentatively conclude that the obligation under NEPA to identify and take into account the environmental effects of actions that we undertake or authorize may provide a basis for the Commission to make the requisite public interest determination under the Communications Act to support the promulgation of regulations specifically for the protection of migratory birds, provided that there is probative evidence that communications towers are adversely affecting migratory birds."

Indeed, in previous cases involving tower applications and registrations by the FCC, the Commission acknowledges it has considered the impact of individual proposed actions on migratory birds as part of its overall responsibility under NEPA. See NPRM, paragraph 33, Note 111. *In re Leelanau County*, Michigan, 9 FCC Rcd 6901 (1994), the case arose as a result of a challenge to a communication tower based on migratory bird impacts by the Citizens for Existing Towers, Michigan Audubon Society, National Audubon Society, and the National Parks and Conservation Association. *In re Deersville*, OH, 19 FCC Rcd 18149 (WTBSCPD 2004), was the subject of a Petition to Deny that the Appellants filed on the basis that the proposed facility would have a significant effect on migratory birds. See Memorandum Opinion and Order DA 04-29990 (Sept. 14, 2004).

The Commission's attorneys also have argued that the FCC has authority to regulate towers specifically as they affect birds and that they have exercised its authority over tower construction in the past. In a court brief filed by FCC attorneys in August 2005 concerning the Mandamus Petition of American Bird Conservancy et al. v. FCC in the U.S. Court of Appeals for the District of Columbia Circuit, these attorneys cited the *In re Leelanau County* case noted above to the Court of Appeals, as well as *Caloosa Television Corp*. 3 FCC Rcd 3656, 3658 (1988), recon. denied, 4 FCC Rcd 4762 (1989); In the Matter of T-Mobile and the Pierce Archery Proposed Antenna Tower, 18 FCC Rcd 24993, 24997 (2003); *Letter from Linda Blair, Mass Media Bur., FCC, to Tanja L. Kozicky*, 11 FCC Rcd 4163, 4166 (Aud. Serv. Div. 1996); In re Application of Baltimore County, Maryland, 4 FCC Rcd 5068, 5071 (1989), review denied, 5 FCC Rcd 5616 (1990). The FCC attorneys cited these cases to demonstrate to the Court that indeed the FCC has exercised its regulatory authority in considering the impact of proposed tower construction projects on migratory birds and the environment, and in certain circumstances, has required modifications to protect birds and the environment.

Why then does the FCC insist in this NPRM on asking for advice on whether it has this previously exercised authority and duty under NEPA, the Communications Act, or other statutes?

We herein again provide clear and substantial evidence documenting that communication towers adversely affect migratory birds and that this clearly meets the NEPA standard for "significance" as delineated in the statute, regulations, and case law governing the Act. We further document below the requirements of the MBTA and how the FCC is bound by these requirements and has both the statutory authority and duty to comply with the MBTA, NEPA, and ESA. The U.S. FWS also has submitted comments on this NPRM citing the federal statutes and case law that require the adoption of the mitigation measures and procedures outlined in their letter and herein, and their statutory basis under
the MBTA, NEPA, and ESA.

The FCC must initiate procedures to comply with the nation's key conservation statutes immediately in connection with its antenna structure approval and registration program. New rules should be adopted under this NPRM to fully comply with these statutes.

We suggest that the recommendations in Section II above to protect migratory birds would help cure some of the existing violations of NEPA, ESA, and MBTA by avoiding or at least minimizing bird fatalities. But a programmatic EIS is still required as are the other changes in individual antenna structure review suggested herein. Such rules to prevent bird mortality should have been proposed as part of this NPRM but were not; this can be remedied by adoption of such rules shortly after the reply comment period ends on May 23, 2007.

C. NEPA COMPLIANCE.

1) NEPA REQUIRES A PROGRAMMATIC EIS.

The FCC requests comments on "the threshold necessary to demonstrate an environmental problem that would authorize or require the Commission to take action." NPRM at paragraph 32. Under NEPA, 42 U.S.C. §§ 4321 et seq, because communication towers "will or may" significantly affect migratory birds, the FCC must conduct a Programmatic EIS immediately. This programmatic EIS would be on the overall impacts to the environment of its antenna approval and registration program, especially on migratory birds. This is necessary to comply with NEPA.

To the extent this NPRM seeks scientific information relating to effects of towers on migratory birds, we refer the agency to our comments in this document and in previous submissions. This data overwhelmingly supports the necessity of NEPA action and compliance. For example, the FCC in this NPRM at paragraph 16 notes that: "FWS claims, however, there has been a recent dramatic increase in migratory bird deaths as a result of the exponential growth in communications tower construction that began in the 1990s. The agency estimates that collisions with communications towers are responsible for at least 4 to 5 million bird deaths per year, and that if a proper cumulative impact study were conducted it might indicate the number to be closer to 50 million per year."

In the letter of November 2, 1999 mentioned above and below, the Director of the U.S. Fish and Wildlife Service urged the FCC to conduct a NEPA programmatic EIS on the tower registration program, noting that the annual killing of migratory birds at communication towers was substantial and "....could significantly affect populations of many species." Letter from Jamie Rappaport Clark, Director, FWS to William Kennard, Chairman, FCC (Nov. 2, 1999).

In the FCC NOI at page 14, the FCC notes that it is not expert in migratory birds but the FWS is the lead Federal agency for managing and conserving migratory birds. The FCC further acknowledges that the FWS undertakes a number of bird surveys with the Regional FWS offices. The Director of the FWS, the Federal agency with this expertise in birds cited by the FCC, clearly states that the FCC should prepare a programmatic EIS under NEPA to delineate the impacts on birds and to arrive at mitigation measures because of the "significance" of bird mortality at communication towers.

In the U.S. FWS filing of February 2, 2007 on this NPRM, the FWS states that: "The FCC procedures for NEPA compliance require applicants to consider the potential environmental effects, as well as the effects on historic properties, from construction of antenna facilities or structures if the proposed facility is located in or may affect resources identified within 1 of 8 listed categories. Those effects must be disclosed in an environmental assessment (EA) filed with the FCC for review. Migratory birds, however, unless federally listed or their habitats are designated 'critical,' are not included in the FCC location review process. Neither the individual impacts of a tower nor the cumulative impacts of all communication towers are included as part of the NEPA review process. The Service first raised this concern in 1999 at a public workshop on avian collisions at towers held at Cornell University (Willis 1999). More recently, we have raised it at all meetings of the Communication Tower Working Group, in a Service briefing for FCC staff, in a Service briefing for the senior legal advisors to the FCC Commissioners, and in the NOI."

This analysis from the federal agency with the statutory duty to conserve migratory birds and with the agency expertise on birds should be enough to trigger full NEPA compliance and a programmatic EIS. However, the FCC has taken the remarkable position that "the telecommunications industry [as a whole] does not generally raise environmental concerns." 51 Fed. Reg. 14999, 14999 (Apr. 22, 1986). This is despite the FCC's annual approval and registration of thousands of communications towers which obviously has "significant" environmental impacts within the meaning of NEPA.

There is no question that communication towers "will or may" cause significant adverse effects to migratory birds within the meaning of NEPA and its implementing regulations. For the last 8 years, American Bird Conservancy, Forest

Conservation Council, and other conservation groups, along with scientists from the U.S. Fish and Wildlife Service, including its' Division of Migratory Bird Management, and other scientists, have provided the agency with information, documentation, correspondence, and studies concerning migratory bird mortalities at communication towers. This information establishes not only that migratory birds are killed as a result of collisions with FCC-licensed towers and related structures such as guy wires, but also that these mortalities potentially have significant adverse effects on certain migratory bird populations, including Birds of Conservation Concern. See, e.g. ABC et al. comments on the FCC NOI on Birds and Towers dated February 14, 2005, March 9, 2005, and November 11, 2003, including the attached studies and reports from Longcore et al.; see also U.S. Fish and Wildlife Service Division of Migratory Bird Management Comments dated March 9, 2005, February 11, 2005, and November 18, 2003; see also comments and scientific data submitted by Dr. Joelle Gehring on September 19, 2006 and February 14, 2005, and electronic mail correspondence from Gerald Winegrad of ABC to FCC (various dates).

The U.S. FWS Birds of Conservation Concern are migratory birds that the FWS believes are likely to become candidates for listing under the ESA unless conservation measures are taken. These species are either in substantial decline or are otherwise threatened by small or restricted populations, or are dependent on restricted or vulnerable habitats. This list was mandated by Congress to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation action, are likely to become candidates for listing under the Endangered Species Act of 1973." Fish and Wildlife Conservation Act of 1980, as amended. 16 U.S.C. §2912 (a)(3). Hence, the 2002 list compiled by the FWS consists of migratory birds that the FWS believes are likely to become candidates for listing under the ESA unless conservation measures are taken. These species are either in substantial decline or are otherwise threatened by small or restricted populations, or are dependent on restricted or vulnerable habitats.

For a list of the U.S. FWS Birds of Conservation Concern, see U.S. Fish and Wildlife Service. *Birds of conservation concern 2002*. Division of Migratory Bird Management, Arlington, Virginia. 99 pp. The online version is available at: http://migrtaorybirds.fws.gov/reports/bcc2002.pdf.

We have suggested above in Section II, that in revising 47 C.F.R. §1.1307 requirements for applicants, the FCC should require that the potential take of any Birds of Conservation Concern be listed as an item triggering an Environmental Assessment and avoidance measures to prevent the take of such species.
Insofar as this inquiry also poses a legal question, the FCC cannot premise its determination of significance under NEPA on public opinion. The FCC is required under NEPA to follow the standard for "significance" as delineated in the statute, regulations, and case law governing the Act. The Council on Environmental Quality

(CEQ) has promulgated regulations implementing NEPA that are binding on all federal agencies. See 40 C.F.R. §1500.3. These regulations are afforded "substantial deference" by the courts. *Andrus v. Sierra Club*, 442 U.S. 347, 357-58 (1979). The CEQ regulations discuss the meaning of the term "significantly" in detail at 40 C.F.R. §1508.27. Among other things, the regulations state that "[s]ignificance exists if it is reasonable to anticipate a cumulatively significant impact on the environment." Id. §1508.27(7). Additionally, "[s]ignificance cannot be avoided by terming an action temporary or by breaking it down into small component parts." Id.

NEPA requires all federal agencies to prepare a detailed environmental impact statement ("EIS") analyzing the environmental impacts of "every major Federal action significantly affecting the quality of the human environment." 42 U.S.C. §4332(2)(C). NEPA applies to "all agencies of the Federal Government." 40 C.F.R. §§ 1508.12. Under regulations for implementing NEPA, covered actions include "continuing activities" and "programs," 40 C.F.R. § 1508.18(a), and "federal agencies must conduct an EIS for any action that "will or may" have a significant effect." Id. §1508.3 (emphasis added) ("Affecting means will or may have an effect on"). The FCC's own regulations governing its implementation of NEPA specify that they "shall apply to all Commission actions that may or will have a significant impact on the quality of the human environment." 47 C.F.R. § 1.1303 (emphasis added). Accordingly, "[a]n agency's refusal to prepare an [EIS] is arbitrary and capricious if its action might have a significant environmental impact." *State of North Carolina. v. FAA*, 957 F.2d 1125, 1131 (4th Cir. 1992) (emphasis added).

In determining whether a federal action will or may significantly affect the quality of the human environment, all direct, indirect, and cumulative effects of an action must be assessed. CEQ regulations require agencies to consider three types of actions when preparing an EIS: 1) "connected actions," which means they are closely related and therefore should be discussed in the same impact statement; 2) "cumulative actions,"which when viewed with other proposed actions have cumulatively significant impacts and should therefore be discussed in the same impact statement; and 3) "similar actions, which when viewed with other reasonably foreseeable or proposed agency actions, have similarities that provide a basis for evaluating their environmental consequences together, such as common timing or geography." 40 C.F.R. §1508.25(a). Because the FCC's communication tower review, approval, and registration program are connected, cumulative, and similar in nature, the ongoing program of tower approval and registration is an agency program for purposes of NEPA analysis, requiring a programmatic environmental impact statement.

The documentation that has been previously submitted by us to the FCC in the NOI proceeding, including the detailed Longcore at al. Land Protection Partners Reports

in 2005, and the data provided herein, clearly documents that avian mortality is significant at communication towers and certainly triggers NEPA's "significant" impact on the environment test. Longcore, T., C. Rich, and S.A. Gauthreaux Jr. *Scientific basis to establish policy regarding communications towers to protect migratory birds: response to Avatar Environmental, LLC, report regarding migratory bird collisions with communications towers,* WT Docket No. 03-187, Federal Communications Commission Notice of Inquiry, Los Angeles, Land Protection Partners, 33 pp. (2005). PLEASE NOTE: For reference purposes, each referral to this above cited document is referenced herein as Longcore et al. Land Protection Partners Reports (2005) and includes both the original February 2005 document and the reply document of March 2005 filed with the FCC.

The scientists who prepared the Longcore et al. Land Protection Partners Reports (2005) have subjected conducted further exhaustive literature reviews, examined new research and studies, and run their data through extensive statistical review for publication. This has resulted in their new work that has been filed with the FCC as formal comments on this NPRM. See Longcore, T., C. Rich, and S.A. Gauthreaux Jr. *Biological Significance of Avian Mortality at Communications Towers and Policy Options for Mitigation: Response to Federal Communications Commission Notice of Proposed Rulemaking Regarding Migratory Bird Collisions With Communications Towers*, WT Docket No. 03-187, (April 2007). The authors of this new analysis, joined by other scientists, plan to publish the avian mortality documentation and it may be cited as Longcore, T. C. Rich, S.A. Gauthreaux Jr., B. MacDonald, and L. M. Sullivan. In preparation. *Is mortality of birds at communication towers biologically significant?* PLEASE NOTE: For reference purposes, each referral to this document filed with the FCC as part of this NPRM is referenced herein as Longcore et al. Land Protection Partners Analysis (2007).

In the Longcore et al. Land Protection Partners Analysis (2007), the authors have concluded that ~4.3 million birds are killed at communication towers under the jurisdiction of the FCC annually, and have adjusted avian mortality from their previous Report to concur with the low end estimates made therein. In their new analysis filed with the FCC as part of the NPRM, the scientists/authors found the level of mortality for three of the ten avian species killed most frequently at towers to be: Red-eyed Vireo–386,426; Ovenbird–337,341; and Common Yellowthroat–295,130.

For Bay-breasted Warblers, the estimated annual mortality was 151,122 and for Chestnut-sided Warbler--97,091. Both these latter species are U.S. FWS Birds of Conservation Concern, whose populations are declining, and like at least 63 other Birds of Conservation Concern, are killed at towers. This Congressionally mandated list is published to alert managers that these birds may become candidates for Endangered Species Act listing unless action is taken to aid their recovery.

The Report estimates an annual tower mortality of greater than 0.5% of estimated population sizes for 34 avian species including 20 Birds of Conservation Concern. Red-cockaded Woodpeckers, a federally endangered species, are also documented as killed at towers. Twenty-four species of U.S. FWS Birds of Conservation Concern each have estimates of more than10,000 fatalities at communication towers annually. See Table 3 in Longcore et al. Land Protection Partners Analysis (2007).

The Longcore et al. Land Protection Partners Analysis (2007) of avian mortality is based on the FCC Antenna Structure Registration Data System that when last checked indicated there were 102,706 antenna structures (communication towers) registered in the FCC data base. Longcore et al., using the FCC data base, further eliminate more than 14,000 towers from their analysis and conclude that there are 87,224 towers in the FCC data base that are in Bird Conservation Regions where bird fatalities at towers were documented or in other geographic areas where such fatalities were likely. As the authors note, their analysis and bird fatality computations are very conservative and are likely to underestimate such fatalities. We concur and note that the LPP overall bird and species-specific data is based on the FCC tower registration database that lists 102,706 total towers, and Longcore et al. assume from this data base that there are 87,224 towers from 0 meters to 620 meters (2,034') AGL that are in areas of the country that have had recorded tower mortality or are in areas that are likely to cause such mortality.

However, many antenna structures are not registered in the FCC Antenna Structure Registration Data System. *Fryer*'s *Site Guide* in 2002 lists 170,087 towers. This means the likely annual death toll for migratory birds is much higher than Longcore et al. estimate. James M. Fryer published *Fryer's Site Guides* beginning in 1991 that were regional print publications detailing the location and number of communication towers in the United States. *Fryer's Site Guides* became the industry's most comprehensive directory of antenna sites. *Fryer's Site Guides* were used by industry to assess the availability of existing structures to locate new antenna. With the rise of the internet, Mr. Fryer's publications were transferred from the print data he maintained and updated, to electronic data, and Mr. Fryer created *TowerSource*, the first on-line searchable site database.

According to the web site for *TowerSource*, this company "was started out of a need to reduce a significant barrier to entry for new service providers or those service providers wishing to expand coverage. One of the main barriers to entry for these service providers is locating and negotiating lease terms for antenna deployments. Additionally, landlords of vertical assets now have a cost effective, industry recognized partner to promote and market their real estate. *TowerSource* is an intuitive process-driven market exchange platform to identify vertical mounting assets in the wireless industry. *TowerSource* is the largest and most accurate vertical asset site exchange in the US. *TowerSource* enables those seeking to secure vertical assets and those with sites for lease." In late 2005, Richard Biby of Biby

Publishing acquired *TowerSource*. See: www.towersource.com/ts/site/app/main/content.jsp?guid=3066171C-CDFC-F3E9-59B5-96560F14C856&content=D4D4E200-2A1C-2DD0-8CC5-3CC1D6E7F4A6

In a summary (attached) prepared for the Personal Communications Industry Association and presented to the Communication Towers Working Group meeting of February 22, 2002, the following data on towers from *Fryer*'s Site *Guide* is reported as of 2002 (of course these numbers have increased):
There are at least 170,087 towers in the U.S. as of 2002, and according to Mr. Fryer, the number could be as high as 235,000.

According to the data from the *Fryer*'s Site *Guide* (attached), there are 1,677 towers of 1,000' AGL or higher and 98% are estimated to be guyed; 3,838 towers from 501' to 999' and 87% are estimated to be guyed; 9,892 towers from 401' to 500' and 75% are estimated to be guyed, 70,616 towers from 201' to 400' and 45% are estimated to be guyed; and 84,064 towers 200' and under, and10% are estimated to be guyed, and 15%-20% estimated to have aviation safety lighting.

The significant disparity between the towers identified in *Fryer*'s Site *Guide* as compared to the numbers in the FCC data base becomes evident from just examining the highest towers in the country, those exceeding 1,000' AGL. *Fryer*'s Site *Guide* identifies 1,677 towers of 1,000' AGL or higher; the FCC data base contains, at most, 851 towers of 1,000' AGL or higher.

Refining this data a bit further, there are a total of 15,407 towers that exceed 400' in height and approximately 12,401of these towers are guyed. All of these towers are required to have aviation safety lighting for night time conspicuity and many of these towers employ the red steady burning lighting systems (FAA L-810) known to attract large numbers of birds. This combination of red steady burning lights and guy wires presents a lethal death trap for millions of migratory birds each year, and this is detailed in the Longcore et al. analysis filed with the FCC as part of this NPRM, as well as in the many studies, research, and documents cited herein.

The Longcore et al. Land Protection Partners Analysis (2007) parses the towers from the FCC tower registration database to only 87,224 in areas that have or are likely to affect birds. These scientists work from an FCC base of 9,095 towers over 400' AGL, 762 towers in excess of 1,000', 2,123 towers from 500'-999', 6,310 towers from 400' to 499', and another 49,244 towers from 200' to 399'. Refining the FCC data a bit further, there are a total of 9,195 towers that exceed 400' in height the scientists use in their calculations. Using the *Fryer* estimates, approximately 80% of these towers that exceed 400' are guyed, or 7,365 towers.

Therefore, the data produced documenting the killing of migratory birds in the Longcore et al. Land Protection Partners Analysis submitted as part of this NPRM is very conservative as there are many more towers. Collectively, these towers pose a formidable obstacle to birds, particularly to night migrating neotropical birds. The data cited herein and in the Longcore et al. Land Protection Partners Analysis submitted as part of this NPRM conclusively documents that the annual avian fatalities at towers constitutes a "significant effect" on the environment under NEPA standards and is **biologically significant** for a number of these avian species. Avian fatalities at towers goes well beyond NEPA "significant effect"standards and rises to a substantial threat to a number of protected migratory bird species.

We also direct the FCC's attention again to the formal reply comments in the NOI on the Avatar Report submitted for the U.S. FWS by Dr. Albert Manville, essentially endorsing the previous analysis by Land Protection Partners. The FWS reply states: "In our opinion, the LPP comments provide a detailed and scientifically-sound analysis of current avian-communication tower interactions." "The population impacts to migratory songbirds (and other avifauna) and impacts to their population status are frightening and biologically significant."

For these reasons, it is clear that the FCC's antenna structure approval and registration program constitutes a "significant" action under NEPA and triggers the full panoply of NEPA requirements by the FCC.

We also note that the FCC NPRM inquiry into other sources of avian mortality is without merit. The NPRM asks: "Also, what is the relevance, if any, of other causes of avian mortality, such as buildings, transmission lines, and vehicles?" It is the killing of migratory birds at towers under the jurisdiction of the FCC that requires the FCC to act under NEPA, the MBTA, and under the ESA. That birds are also killed by other means is not relevant to this inquiry or to the obligations for the FCC to act under NEPA, MBTA, and the ESA. The scientists/authors of the Land Protection Partners Analysis submitted with our NOI/Avatar comments of February 14, 2005 conclude that "Expressing tower kill mortality as a percentage of total human-induced mortality therefore does not make sense." Most recently in their NPRM filing the scientists/authors conclude "The proportion of total human-caused mortality attributable to towers is therefore inconsequential to the assessment of impacts."

The scientific documentation of the significance of tower kills on migratory bird populations, particularly of U.S. FWS Birds of Management Concern, is more than enough to require action by the FCC to account for and prevent this mortality under NEPA, MBTA, and the ESA.

This NPRM does not relieve the FCC from full compliance with NEPA and its implementing regulations. Section 102(2)(C) of NEPA requires federal agencies to

prepare an EIS for all "major" federal actions significantly affecting the quality of the human environment. 16 U.S.C. §4332(2)(C).

In sum, because the administrative record before the FCC already demonstrates conclusively that communication towers "will or may" cause significant adverse effects to migratory birds, the FCC must conduct a programmatic EIS immediately, not after gathering further background information.

2) THE FCC MUST ADOPT ADDITIONAL CRITERIA FOR MIGRATORY BIRDS TO TRIGGER AN EA FOR INDIVIDUAL TOWER APPLICATIONS.

The NPRM requests "comment on whether to add an additional criterion for requiring an EA to Section 1.1307(a) of our rules." "Finally, we seek comment on whether we should amend Commission rule 1.1307 [47 C.F.R. 1.1307] to include potential impact on migratory birds as a criterion that requires the filing of an Environmental Assessment (EA)."

Almost all towers registered by the FCC are categorically excluded from environmental review by the FCC's NEPA rules. 47 C.F.R. §1.1306. The Council on Environmental Quality's NEPA regulations allow federal agencies to promulgate rules exempting some actions from NEPA analysis. 40 C.F.R. § 1500.4(p). But the FCC has severely abused its discretion by exempting almost all tower registrations. Thus, in a rule promulgated in 1986, the FCC declared that all FCC actions, decisions, licenses, permits, and renewals are "categorically excluded" from NEPA review unless the action falls into a few narrowly defined categories set forth in the regulations. See 47 C.F.R. § 1.1307 et seq.

These categories include the approval of: (1) facilities that are to be located in a designated wilderness area or wildlife preserve; (2) facilities that may affect ESA listed species; (3) facilities that may affect cultural or historic resources that are eligible for listing on the National Register of Historic Places; (4) facilities that are located in a Flood Plain; (5) facilities "whose construction will involve significant change in surface features;" and (6) facilities that are to be equipped with high intensity light in residential areas. 47 C.F.R. § 1.1307(a). Under these FCC regulations, communication tower applicants need only prepare an Environmental Assessment if, and only if, the project falls within one of these narrow categories– and only if the applicant makes that determination. The FCC neither conducts nor has the ability to conduct any independent review of an antenna structure's environmental impacts, whether to migratory birds or otherwise.

By contrast, the Council on Environmental Quality's regulations interpreting NEPA--which are binding on all federal agencies--outline a much larger class of potential environmental impacts which must be evaluated in an EA and, if determined to be "significant," addressed in an Environmental Impact Statement.

The CEQ regulations provide that, in determining whether an agency action requires the preparation of an EIS, the agency must consider, among other factors, whether the action involves "[u]nique characteristics of the geographic area such as proximity to historic or cultural resources, park lands, prime farmlands [and] ecologically critical areas," Id. at § 1508.27(b)(3); "[t]he degree to which the effects on the quality of the human environment are likely to be highly controversial," Id. at § 1508.27(b)(4); "[t]he degree to which the possible effects on the human environment are highly uncertain or involve unique or unknown risks," Id. at § 1508.27(b)(5); "[t]he degree to which the action may establish a precedent for future actions with significant effects or represent a decision in principle about a future consideration," Id. at § 1508.27(b)(6); "the degree to which the action is related to other actions with . . . cumulatively significant impacts," Id. at § 1508.27(b)(7); "[t]he degree to which the action adversely affect an endangered or endangered or threatened species," Id. at § 1508.27(b)(9);and whether "the action threatens a violation of Federal . . . law or requirements imposed for the protection of the environment." Id. at § 1508.27(b)(10).

Under current FCC rules and practice, tower construction projects that will have potentially significant adverse effects on non-endangered birds protected under the Migratory Bird Treaty Act, 16 U.S.C. § 703 et seq., are categorically excluded under the FCC's regulations, and hence require no NEPA review whatsoever. The FCC regulations provide no rationale for this omission, nor can it be reconciled with the CEQ regulations implementing NEPA. In a May 1, 2000 Freedom of Information Act request by the Forest Conservation Council to the FCC, the Council requested "Copies of all scientific studies, reports, monitoring data, and any other information the FCC relied upon to determine that Commission actions not covered by 47 C.F.R. § 1.1307(a) and (b) are deemed individually and cumulatively to have no significant effect on the quality of the human environment and are categorically excluded from environmental processing." On August 7, 2000, the FCC responded by providing materials related to the effects of radio frequency radiation on humans. No other issue was researched, examined, or otherwise dealt with in making the categorical exclusion determination, including the killing of migratory birds at antenna structures approved and registered by the FCC.

In short, the FCC's blanket NEPA "exclusion" of all but a handful of FCC activities based on the dubious premise that "the telecommunications industry [as a whole] does not generally raise environmental concerns," 51 Fed. Reg. at 14999, as well as the agency's failure to require NEPA analysis for projects that have significant effects on migratory birds protected under the MBTA, are both arbitrary and capricious and contrary to the plain language and intent of NEPA and the CEQ regulations relating to the promulgation of categorical exclusions. See Heartwood, Inc. v. United States Forest Service, 73 F. Supp. 2d 962 (S.D. Ill. 1999). The FCC

could readily ascertain their NEPA compliance duties and their failure to comply with NEPA by consulting with the CEQ, but the FCC has failed to do.

Further, the FCC wrongfully delegates the responsibility to the industry registration applicant in individual antenna structure approval and registration cases to determine whether an environmental analysis is required by NEPA. The industry antenna structure registration applicant then decides whether a particular antenna structure project falls within one of the few narrow exceptions to the FCC's blanket NEPA categorical exclusion. 47 C.F.R. §1.1308. See, e.g., Holly Berland, FCC Office of General Counsel, *Presentation to the Avian Mortality at Communication Towers Workshop* (Aug. 11, 1999) (explaining that "the FCC does not even have an environmental office" and that "what the FCC does is delegate our environmental responsibilities to our licensees and our applicants" who "kind of check off" whether their own projects have significant environmental effects).

Indeed, an FCC guidance document explaining the NEPA review procedures for the agency's tower registration program under 47 C.F.R. § 17 candidly explains that: "FCC form 854 (Application for Antenna Structure Registration) contains question 28, which asks whether the licensee's proposed action may have a significant environmental effect requiring an EA. If the licensee indicates "NO" to this question, no environmental documentation is required to be filed with the Commission." FCC, Compliance with Commission's Rules Implementing the National Environmental Policy Act of 1969, *available at* http://www.fcc.gov/wtb/siting/npaguid.html.
Even in those few circumstances where an applicant does choose to voluntarily prepare an Environmental Assessment because--in the applicants' own view--a project may have significant environmental effects, the agency's regulations give applicants virtually unlimited discretion to determine both the content of the EA and the process by which the EA is prepared. See 47 C.F.R. § 1.1308; see also § 1.1311 listing the issues that must be included in an EA, but omitting several of the factors that the CEQ's binding NEPA regulations state must be considered in an EA.

The FCC's only role in the EA process is to review the final EA and to issue either a Finding of No Significant Impact ("FONSI") – which in most cases is a one-line, conclusory assertion of "no impact" -- or a determination that an Environmental Impact Statement is necessary. Id. at § 1.1308. The FCC does not conduct any independent review of an antenna structure's environmental impacts and absent a third party raising environmental concerns, the FCC rubber stamps the application, whether an EA has been conducted, and even more quickly where no EA is decided upon by the applicant.

In short, the FCC's decision to delegate to permit applicants both the responsibility of determining when NEPA review is required and how NEPA review will take place, violates NEPA and numerous judicial precedents interpreting the CEQ regulations. See, e.g., *Illinois Commerce Commission v. I.C.C.*, 848 F.2d 1246, 1258 (D.C. Cir. 1988) (a federal agency "may not delegate to parties and intervenors its own responsibility to independently investigate and assess the environmental impacts of the proposal before it").

In practice, the agency gives applicants virtually unlimited discretion to determine whether environmental analysis will be undertaken, and if it will, how it will be done. The FCC merely asks the applicant to submit a form containing a checklist of potential environmental impacts. In 99%+ of antenna structure applications, the applicant claims that there will be no environmental impacts. The checklist does not mention tower impacts on migratory birds.

Then, in these cases, the FCC simply rubber-stamps the applicant's form in a one line conclusory review, and the tower is categorically excluded from NEPA review. The turn-around time is normally one or two days from the FCC's receipt of the application, giving citizens no opportunity for comment, despite any ability of the FCC to conduct even a cursory NEPA analysis. Only in less than 1% of all tower applications does the applicant check one of the triggers for an environmental assessment, and then the applicant prepares the EA. The FCC is incapable of determining the accuracy of the applicant's EA and conducts no independent review of the EA. Unless a third party intervenes and objects within a 30-day period, the tower is automatically approved and registered by the FCC. This process is entirely foreign to the spirit and purpose of NEPA and violates NEPA and the CEQ implementing regulations.

The CEQ regulations allow agencies to establish categorical exclusions only for "actions which do not individually or cumulatively have a significant effect on the human environment." As the data submitted herein and in other repeated submissions, including those from the FWS, document, FCC tower registration decisions have significant effects on the human environment both individually and cumulatively by killing millions of MBTA protected migratory birds, including endangered species and at least 65 species of U.S. FWS listed Birds of Conservation Concern.

Clearly, given the FCC's requirements for compliance with NEPA, ESA, and the MBTA, additional criteria for environmental review are needed. Currently the criteria are too narrow, as they only consider effects on federally ESA-designated threatened or endangered species, and not on any other migratory bird species that may be affected either individually or cumulatively by towers. See 47 C.F.R. § 1.1307. Indeed, the Commission admits that, "under our present rules we do not

routinely require environmental processing with respect to migratory birds." See NPRM, paragraph 33. This glaring deficiency was acknowledged as far back as 1999. Holly Berland, a staff attorney with the FCC's Office of General Counsel, noted in her August 1999 presentation at the Avian Mortality at Communication Towers Workshop at Cornell University "our environmental rules today do not require the routine consideration and assessment of towers' impact on migratory bird populations." See her entire remarks at: www.towerkill.com/workshop/proceedings/html/pan10.html. The FCC has failed to correct this deficiency for more than 7.5 years, and is now asking once again "should this be corrected"?

The current list of criteria is obviously inadequate to comply with conservation statutes. Under the FCC criteria, regardless of the potential or likelihood of take without a permit of migratory birds at an antenna structure (which is a violation of federal law under the MBTA), and regardless of the significance of such take on migratory birds (either individually or cumulatively with other towers), the FCC's procedures allow the FCC and antenna structure applicants to escape the requirements of NEPA Environmental Assessments for non-ESA migratory birds. The applicant simply checks a box "no" claiming there are no significant environmental effects. Thus, the FCC antenna structure approval and registration process avoids all considerations of non-ESA listed bird impacts and requires no avoidance or preventative measures. This is despite the clear and concise U.S. FWS Guidelines for avoiding such bird deaths that were published in September 2000, and the availability of other measures by which an applicant could avoid avian mortality without in any way impeding the provision of communication services.

The FCC must require applicants to consider additional effects in their determination whether to conduct an EA, including at a minimum the tower's individual and cumulative effects on migratory birds. Then, the FCC must further require that the applicant adopt avoidance and other measures, as detailed in Section II above to prevent, or at least minimize, such mortality.

The FCC should include in the additional criterion for its rules under 47 C.F.R. §1.1307 requirements for an evaluation of not only the take and impacts to migratory birds, but whether migratory birds that may be taken at towers are listed on the U.S. Fish and Wildlife Service's Birds of Conservation Concern List. U.S. Fish and Wildlife Service. Birds of conservation concern 2002. Division of Migratory Bird Management, Arlington, Virginia. 99 pp. The online version is available at: http://migrtaorybirds.fws.gov/reports/bcc2002.pdf. The list is required to be updated at least every five years.

The killing of at least 65 species of Birds of Conservation Concern at communication towers has been documented in the literature and in filings with the FCC, and is again documented herein. See Section IV below and see, also: Shire, G.G., K. Brown, and G. Winegrad. 2000. *Communication towers: a deadly hazard to birds*. American Bird Conservancy, Washington, D.C (2000); Longcore et al. Land Protection Partners Reports (2005); and Longcore et al. Land Protection Partners Analysis (2007).

The take of millions of these U.S. FWS listed Birds of Conservation at communication towers and the detailed estimates of the annual killing of the 65 listed Birds of Concern is documented in the analysis and comments in Longcore et al. Land Protection Partners Reports (2005) and Longcore et al. Land Protection Partners Analysis (2007) and in the other publications cited above. This take of not only MBTA protected migratory birds, but of U.S. FWS Birds of Conservation Concern as well should trigger the FCC to complete a programmatic EIS under NEPA and to fully comply with NEPA, MBTA, and the ESA.

The FCC implies that its procedures are sufficient because "although under our present rules we do not routinely require environmental processing with respect to migratory birds, the Commission has considered the impact of individual proposed actions on migratory birds as part of its overall responsibility under NEPA," citing a total of two individual tower licensing proceedings. See NPRM, paragraph 33, Note 111. However, this is grossly insufficient. In both cases, consideration of migratory bird impacts resulted from challenges by concerned third parties, not from FCC's compliance with its own regulations. *In re Leelanau County, Michigan*, 9 FCC Rcd 6901 (1994) arose as a result of a challenge by the Citizens for Existing Towers, Michigan Audubon Society, National Audubon Society, and the National Parks and Conservation Association. *In re Deersville*, OH, 19 FCC Rcd 18149 (WTBSCPD 2004), was the subject of a Petition to Deny that the Appellants filed on the basis that the proposed facility would have a significant effect on migratory birds. See Memorandum Opinion and Order DA 04-29990 (Sept. 14, 2004).

But for these third party challenges, there is zero consideration given or required for impacts to non-ESA listed migratory birds, nor for congressionally mandated Birds of Conservation Concern, and not for migratory birds given protection under the MBTA. Approximately 100,000 lit communication towers are operating in the U.S. under FCC jurisdiction, with at least another 70,000 towers under 200' in height, and the FCC cites two cases where impacts to migratory birds were considered.

We suggest that 47 C.F.R. §1.1307 be amended to require that an applicant must review and evaluate the following, at a minimum:

Is the proposed antenna structure located in a migratory bird corridor, on a ridge, near a wetland, or in or near a wildlife area such as a refuge or park, or in any other area that attracts migratory birds?
Is the proposed antenna structure to be constructed likely to cause any migratory birds, and specifically U.S. FWS Birds of Conservation Concern, to be killed at the structure?
Is the proposed antenna structure to be constructed and operated so as to avoid, or at least minimize, the likelihood of causing fatalities to any migratory birds, and specifically U.S. FWS Birds of Conservation Concern, including avoiding the use of guy wires where possible and not using red steady burning pilot warning lights (L-810) for night time conspicuity?

If an applicant responds "yes" to either of the first two questions, or "no" to the third question, an EA would be triggered. The new requirements for the avoidance measures detailed in Section II above should be applied to all towers, but in cases where migratory birds may be affected, the FCC should closely review the application and assure full compliance.

Each tower applicant should be required to provide documentation verifying a determination that no EA is required, and this should include a U.S. FWS regional office determination of whether any threatened or endangered species are in the area and potential effects on such species, as well as a review by the regional office of the U.S. FWS of potential migratory bird impacts for each new tower and whether the tower would be constructed and operated so as to avoid taking migratory birds. After all, the FCC acknowledges in the NOI at page 14, that it is not expert in migratory birds but that the FWS is the lead Federal agency for managing and conserving migratory birds and possesses the requisite expertise. Given that the FCC acknowledges that it has no in-house capability to ascertain whether individual antenna structures may affect migratory birds or ESA-listed species, the FCC should require the U.S. FWS review and comment. Again, the FCC should assure that the applicant adopts the avoidance measures detailed in Section II above to prevent, or at least minimize, bird fatalities.

Crucial to the FCC's compliance with conservation statutes are these procedural requirements related to a tower applicant's determination whether an individual EA is required. Currently, the applicants are not required to submit any data or documentation to validate their claim that no EA is required, and there is no requirement for the FCC independently to review the applicant's assertion. This procedure plainly violates the law. See *State of Idaho, et al. v. ICC*, 35 F.3d 585, 595-96 (D.C. Cir. 1994) (noting that an agency's "attempt to rely entirely on the environmental judgments of other agencies" and of the regulated entities was a "blatant departure from NEPA"). Likewise, under the ESA, "compliance with section 7 of the ESA

requires that the agency itself ultimately determine the likely impact of [the proposed activity] on the listed species". Id. at 598.

The FCC must correct its procedural requirements appropriately, to ensure compliance on an individual tower basis by its own review and evaluation of new antenna structures and the adoption of avoidance measures for migratory birds. U.S. FWS input would assist the FCC in its determinations. NEPA, ESA, and the prohibitions of the MBTA criminalizing even the incidental, accidental, or inadvertent take of migratory birds without a permit dictate such action, at a minimum, to prevent bird deaths.

The FCC cannot cure the defects in its current antenna structure program by simply adding items to a checklist that is entirely left up to the applicant and for which the FCC is incapable of independently reviewing for accuracy as to environmental impacts, and specifically, impacts to migratory birds. We believe that by adding the three items above, followed by a required submittal and review by the regional office of the U.S. FWS, the FCC could then evaluate migratory bird impacts for each new tower and whether the tower would be constructed and operated so as to avoid taking migratory birds. This presumes that the tower is required to adopt the avoidance measures detailed in Section II above and that the applicant details these measures in the application to be reviewed by FWS and, ultimately, by the FCC.

The practice of automatically registering each new antenna structure where no item in the 47 C.F.R. §1.1307 checklist is checked affirmatively must end and the FCC must conduct its own independent analysis, relying of course on the comments of the FWS and the applicant's use of avoidance measures, to determine if the statutory requirements of the MBTA, ESA, and NEPA are met for each new tower.

Currently, applicant's rarely do seek FWS comments on tower impacts to birds, but if the FWS advises that ESA-listed species are not likely to be impacted, the applicant ignores comments on adverse impacts to migratory birds because the tower will have red steady burning lights (l-810) and guy wires, and the FCC automatically approves the application unless a third party intervenes. This current FCC practice of rubber-stamp approval and registration of nearly all towers and their categorical exclusion from environmental review under NEPA violates NEPA, the MBTA, and the ESA.

The FCC should adopt the changes in its antenna structure approval and registration program suggested above through this NPRM to cure the violations of NEPA.

3) THE FCC CANNOT SHIFT ITS BURDEN TO STUDY THE EFFECTS OF ITS PROGRAM TO THE CONSERVATION COMMUNITY.

The NPRM incorrectly suggests that the FCC may require some higher "threshold" showing of adverse effects before the agency will recognize and comply with its duties under NEPA. See NPRM at paragraph 34. In particular, the NPRM suggests that the FCC will only comply with NEPA "provided that there is probative evidence that communications towers are adversely affecting migratory birds." Id. This approach clearly violates NEPA.

As an initial matter, the FCC lacks any legal basis for requiring "probative evidence" of actual effects. As explained above, both NEPA and FCC regulations require the agency to conduct an EIS whenever its actions "will or may" cause significant adverse effects. 40 C.F.R. § 1508.3 and 47 C.F.R. § 1.1303. Further, the FCC cannot shift the burden of its duty to study the effects of its program onto the conservation community. See *Alaska v. Andrus*, 580 F. 2d 465, 473-474 (D.C. Cir. 1978).

Finally, the FCC cannot require the public to show that significant effects will in fact occur, in order to demonstrate that the agency must prepare an EIS. "It is enough for the plaintiff to raise 'substantial questions whether a project may have a significant effect' on the environment." *Blue Mtns Biodiversity Project v. Blackwood*, 161 F. 3d 1208, 1212 (9th Cir. 1998), cert. denied sub nom *Malheur Lumber Co. v. Blue Mtns Biodiversity Project*, 527 U.S. 1003 (1999).

4) THE FCC SHOULD PROVIDE THE OPPORTUNITY FOR PUBLIC COMMENT ON ANTENNA STRUCTURE APPROVALS AND REGISTRATION.

The FCC is in violation of NEPA public participation requirements set forth in 40 C.F.R. § 1506.6 concerning public notice and opportunity to comment on antenna structure approvals and registrations by the FCC. The FCC excludes public participation opportunities for the vast majority of antenna structures that come before it for approval and registration. This is because under the FCC antenna approval and registration process, the FCC categorically excludes the vast majority of new towers from NEPA review and hence public participation and comment.

In making each approval and registration decision for categorically excluded towers, the FCC simply rubber-stamps approval and registration and issues the registration decision on the same day or, at most, one day after, the subject registration applications are received. This is all done without any public notice. Only in those cases where an applicant determines that one of the items triggering an EA under 47 C.F.R. 1.1307 applies does the public have any notice of the application before the FCC by combing the FCC web site, and then, the public

must respond within 30 days or the application is approved and the new tower is registered.

This FCC process fails to provide the public any opportunity to review the vast majority of tower applications and their supporting documentation, raise issues and concerns germane to the decisions, or object to use of a categorical exclusion prior to the registration decisions. Instead, in the vast majority of cases, the FCC fails to alert the public before quickly approving and registering the categorically excluded tower.

This issue has been repeatedly raised with the FCC and is included as one of requests in the Gulf Coast petition filed on August 26, 2002 with the FCC.

5) THE FCC HAS BEEN ADVISED REPEATEDLY OF ITS FAILURE TO COMPLY WITH NEPA AND SHOULD USE THE NPRM PROCESS TO CURE THESE VIOLATIONS.

Although the FCC has been implementing a nationwide tower approval and registration program for many years, the agency has never prepared an Environmental Impact Statement ("EIS") on the program. Thus, the agency has never taken a look at the cumulative environmental impacts of this program as a whole, and has never systematically considered reasonable alternatives to various aspects of the program.

Indeed, in the letter dated November 2, 1999, the Director of the U.S. Fish and Wildlife Service specifically insists that the FCC prepare a programmatic EIS under NEPA to delineate the extent of the mortality to birds from towers, the cause of the mortality, and to arrive at mitigation measures. The Director references data that indicate the annual killing of migratory birds from communication towers may be 4 million to an order of magnitude above this (40 million) and notes the failure of the FCC's current environmental review procedures to prevent "substantial losses of migratory birds [which] are not being accounted for in FCC's permit and NEPA decision-making process." Letter from Jamie Rappaport Clark, Director, FWS to William Kennard, Chairman, FCC (Nov. 2, 1999).

The FCC refused the Service's request without any coherent explanation, except the curt assurance that the FCC would continue to evaluate the adverse effects of the agency's approximately 5,000 annual communication tower registration and licensing decisions on a "case-by-case basis." Letter from William Kennard, Chairman, FCC to Jamie Rappaport Clark, Director, FWS (Mar. 21, 2000).

The FCC's failure to prepare an EIS for its overall program -- and especially its failure to consider the significant, cumulative effects of thousands of incremental approval, registration, and licensing decisions on migratory birds -- violates NEPA and the CEQ regulations implementing the Act. See 40

C.F.R. § 1508.18(b)(3) (an EIS is required for the "adoption of programs, such as a group of concerted actions to implement a specific policy or plan [and] systematic and connected agency decisions allocating agency resources to implement a specific statutory program or executive directive"); see also id. at § 1502.4(c)(2) (an EIS must be prepared on "broad actions" which "have relevant similarities, such as common timing, impacts, alternatives, methods of implementation, media, or subject matter").

In our filings in the NOI and in repeated communications with the FCC, we have cited the U.S. FWS letter and the failure of the FCC to comply with NEPA. See our comment letter on the NOI dated November 11, 2003. We presented the legal basis as to why the FCC was not in compliance with NEPA and how the FCC should come into compliance in the NOI comments and do so again herein.

The FCC has declined to conduct an EIS and has done virtually nothing to come into compliance with NEPA over the last seven and one-half years. The FCC currently violates NEPA regularly regarding the permitting, approval, registration, operation, and licensing of communication towers. The FCC should complete a NEPA programmatic EIS leading to a final EIS, and should adopt additional appropriate rule changes supported herein for tower registrations to prevent bird mortality.

6) UNTIL FCC COMPLETES EIS, NEW TOWER APPROVAL AND REGISTRATION MUST CEASE UNDER NEPA.

Until the FCC completes a programmatic environmental impact statement on its communication tower registration program, the agency must refrain from issuing new authorizations for towers that may adversely affect migratory birds. As clearly set forth by CEQ regulations implementing NEPA, "[u]ntil an agency issues a record of decision as provided in 40 C.F.R. § 1505.2, no action concerning the proposal shall be taken that would: (1) have an adverse environmental impact; or (2) limit the choice of reasonable alternatives." Additional authorizations of towers harmful to migratory birds will only add to the direct, indirect, and cumulative environmental harm such towers already create. Additional authorizations will also preclude the agency from adopting reasonable alternatives for mitigating such harm, such as reduced tower size, selection of lower-impact tower locations, changes in lighting, elimination of guy wires, and the other measures recommended by the U.S. Fish and Wildlife Service Guidelines and in section II above.

D. ENDANGERED SPECIES ACT COMPLIANCE.

1) ILLEGAL TAKE UNDER ESA.

The FCC's antenna structure approval and registration program violates the agency's obligations under the Endangered Species Act, 16 U.S.C. § 1531 et

seq., in several ways. First, section 9 of the ESA prohibits the "take" of a listed animal. 16 U.S.C. § 1538(a)(1); 50 C.F.R. §§ 17.21, 17.31. The term "take" is broadly defined to include "harass, harm, pursue, hunt, shoot, wound, kill, trap, capture, or collect, or [ ] attempt to engage in any such conduct." 16 U.S.C. § 1532(19).

In this case, there is no question that FCC permitted communications towers have caused, and may continue to cause, the "take" of birds listed under the ESA. For example, ESA-listed Endangered Red-cockaded Woodpeckers were killed at one tower. Bird fatalities at towers in Alaska also may be linked to the killing of Spectacled and Steller's Eiders, both listed as threatened under ESA. See the U.S. FWS comments on this FCC NPRM dated February 2, 2007 and signed by Acting Deputy Director Kenneth Stansell. In Hawaii, the U.S. FWS on March 5, 2007 confirmed that seven already constructed communication towers in Hawaii were likely to affect two ESA-listed seabirds, Newell's Shearwater and the Hawaiian (Dark-rumped) Petrel and that consultation by the FCC was required under Section 7 of the ESA. See the attached FWS letter dated March 5, 2007.

In the U.S. FWS comments on this NPRM, FWS Acting Deputy Director Kenneth Stansell states: " In summary, the Service feels that immediate action needs to be taken to reverse these tower collision impacts on migratory birds....We recommend that FCC implement the Service's 2000 voluntary communication tower guidelines into rulemaking. The FCC would be responsible for informing license permit applicants of the guidelines, overseeing implementation of the guidelines, and would not depend on applicants independently contacting the Service for recommendations. Adopting the guidelines into rulemaking would expedite the consultation process, eliminate the need for the Service to review every communication tower project other than through a Site Evaluation Form, and would establish a basis for programmatic consultation **Accordingly, as with the MBTA, the FCC's authorization of towers that result in the death of listed species are illegal 'takes' under section 9 the ESA.** See, e.g., *Strahan v. Coxe*, 127 F.3d 155, 163 (1st Cir. 1997)." (Emphasis provided).

The FCC needs to cure the illegal take or potential take of ESA-listed birds by formal ESA Section 7 consultation with the U.S. FWS on a nationwide basis to arrive at avoidance and mitigation measures to be adopted by the FCC as suggested by the U.S. FWS Tower Siting Guidelines, and as recommended in Section II above and in the U.S. FWS comments on this NPRM filed on February 2, 2007.

2) CONSULTATION UNDER SECTION 7 OF THE ESA IS REQUIRED.

The FCC fails to comply with Section 7 of the ESA. Section 7 of the ESA requires all federal agencies to ensure that any action authorized, funded, or carried out by the agency is not likely to jeopardize the continued existence of any endangered or threatened species, or result in the destruction or adverse modification of critical habitat. 16 U.S.C. § 1536(a)(2); 50 C.F.R. § 402.02. Under Section 7 of the ESA, federal agencies must ensure that their granting of approvals, registrations, licenses and permits will not jeopardize the continued existence of endangered species. See *Babbitt v. Sweet Home Chapter of Communities for a Greater Oregon, et al.*, 515 U.S. 687, 692 (1995).

To carry out its duty under Section 7, with respect to any agency action, each federal agency must ask the USFWS whether any "listed or proposed [endangered] species or designated or proposed critical habitat…… may be present" in the area of the proposed action. *See* 16 U.S.C. §§ 1536(a)(2)-(3)and 50 C.F.R. § 402.12(c). The consultation requirement in 16 U.S.C. §§ 1536(a)(2) and (3) applies to continuing agency actions, including programs that establish standards and guidelines that individual projects must follow. See 50 C.F.R. § 402.02 ("*Action* means all activities or programs of any kind authorized, funded, or carried out, in whole or in part, by Federal agencies……. Examples include, but are not limited to…… the granting of licenses…….") (emphasis added). See also *Pacific Rivers Council v. Thomas*, 30 F.3d 1050, 1052-53 (9th Cir. 1994) (holding that consultation was required for "comprehensive [resource] management plans governing a multitude of individual projects"); *Conner v. Burford*, 848 F. 2d 1441, 1453-1458 (9th Cir. 1988) (same); *Greenpeace v. National Marine Fisheries Service*, 80 F. Supp. 2d 1137, 1143-1145 (W.D. Wash. 2000) (concluding that certain fishery management plans constitute an agency action that has a "significant ongoing effect" and that therefore require a comprehensive biological opinion).

To comply with this mandate, before taking an action which may affect listed species -- including the issuance of a federal permit, license, or other approval which may affect listed species -- agencies must first prepare a Biological Assessment which contains an analysis of the effects of the action on species, "including consideration of cumulative effects," and consideration of "alternate actions considered by the Federal agency for the proposed action." Id. at § 402.12(f). Only if the BA concludes that a project will not adversely affect any listed species, and the Fish and Wildlife Service concurs in writing, may the agency avoid formal consultation. 50 C.F.R. § 402.13. If an agency cannot support such a conclusion, or if the Fish and Wildlife Service does not concur with the agency's conclusion, the agency must engage in formal consultation and obtain a Biological Opinion from the Fish and Wildlife

Service which details the steps necessary to avoid jeopardy. 16 U.S.C. § 1536(b).

The FCC has already recognized its own duty to comply with the ESA. See FCC Opposition to Mandamus at 8, *In re American Bird Conservancy, et al. v. FCC*, Case No. 05-1112 (August 4, 2005). Also, the FCC wrote to tower owners and licensees in Hawaii acknowledging that FCC tower authorization "is considered a 'federal action' under the Endangered Species Act". See FCC letter to FWS of May 3, 2004 acknowledging that "because the FCC retains jurisdiction over the licenses [for the towers], the Commission can conduct an on-going section 7 consultation despite the fact that the towers have already been constructed." The FCC requested a list of threatened and endangered species, stating that it would then distribute the list to the tower owners and licensees. At the same time, the FCC wrote to tower owners and licensees, acknowledging that FCC tower authorization "is considered a 'federal action' under the Endangered Species Act" and encouraging the licensees and owners to initiate informal consultation over the towers with the U.S. FWS. The FCC also directed the licensees and owners to provide the FCC with information about the tower structures and sites, and the effect of the towers on threatened and endangered species.

The U.S. FWS on March 5, 2007 confirmed this statutory duty on the part of the FCC to formally consult with the FWS under Section 7 of the ESA concerning the construction and operation of Hawaiian towers approved and registered by the FCC. The FWS wrote to the FCC recommending that the FCC consult on seven already constructed communication towers in Hawaii. See the attached FWS letter dated March 5, 2007.

3) CURRENT FCC PROCEDURES VIOLATE ESA REQUIREMENTS.

The Commission claims that it complies with the ESA through its regulations relating to Environmental Assessments (EAs), set forth at 47 C.F.R. § 1.1307(a)(3). Id., NPRM ¶ 10. However, the FCC's existing regulations are inadequate to ensure compliance with the ESA, because the FCC relies exclusively on registrants and applicants, either private tower corporate owners/operators or communication industry corporations to decide whether consultation on individual towers is required.

The FCC delegates to industry applicants as "non-federal representatives" both the responsibility for determining whether ESA consultation is necessary for a particular tower approval and registration decision and, if the applicant so chooses, the responsibility for obtaining a formal ESA consultation from the U.S. Fish and Wildlife Service. The FCC violates the ESA by its failure to prepare Biological Assessments on communication tower approval and registration decisions that are likely to adversely affect listed

species, as well as by the agency's decision to delegate its ESA consultation obligations to industry applicants (in those few cases where ESA consultation is actually initiated).

This approach to compliance with the ESA is impermissible because "compliance with section 7 of the ESA requires that the agency itself ultimately determine the likely impact of [the proposed activity] on the listed species." *State of Idaho, et al. v. ICC*, 35 F.3d 585, 598 (D.C. Cir. 1994).

Indeed, the U.S. FWS on March 5, 2007 wrote to the FCC recommending that the FCC (and not the tower owners/operators) formally consultation with the FWS under Section 7 of the ESA concerning the construction of seven Hawaiian towers. The FCC failure to comply with the ESA regarding these Hawaiian towers was brought to the attention of the FCC and the FWS by NGOs in an ESA-60 day letter notifying the FCC of intent to sue under the ESA. This matter is now in litigation. The FWS letter to the FCC states: "In summary, we do not concur with the NLAA [not likely to adversely affect] determinations provided by the BA's for the guyed towers. It is our position that these towers do present a collision hazard for listed seabirds. Based on radar studies in other locations on the islands, we expect that listed seabirds are likely to be transiting the tower vicinities. We expect that over the 25-year life of a tower, individual listed seabirds could be injured or killed by colliding with guy-wires at these towers. We recommend the FCC initiate formal consultation for all aforementioned towers.

We recognize that these towers are all currently licensed by the FCC and have been in operation for years. Because these facilities already exist, there are limited options for minimizing collision hazards for birds at these sites. However, there are a number of wire-marking devices and other tools that could be used to reduce the risk of avian collisions with aerial lines. We also encourage the use of radar surveys at tower facilities to determine the extent that listed seabirds are transiting the tower areas. We look forward to working with the FCC and the licensees to develop alternatives to minimize the risk of avian collisions at these facilities. We appreciate your efforts to conserve endangered species." Letter attached.

In this case involving the seven Hawaiian towers, the FCC did not have records of any ESA reviews having been conducted by the tower owners/operators or the FCC at the time of the approval, registration, and construction of the towers, nor any records of consultation with the FWS. All ESA review was after FCC approval, registration, and the owners/operators' construction of the towers–and this only because of the intervention of the plaintiffs in these cases.

After an ESA 60-day letter notifying the FCC of the plaintiffs' intention to sue for violations of the ESA, the FCC wrote the tower owners/operators and requested that they consult with the FWS and provide information on any possible affects to ESA-listed species of the seven operating towers. All seven of the towers were determined by the FCC through the industry owner/operators to be "not likely to adversely affect" ESA-listed species." The FCC conducted no independent review of the affect on ESA-listed species either before or after its approval and registration and the subsequent construction. These Hawaii tower cases are typical of how the ESA is routinely violated under the FCC tower approval and registration program.

We also note that in enacting the ESA, Congress explicitly determined "to require agencies to afford first priority to the declared national policy of saving endangered species" and made a "conscious decision . . . to give endangered species priority over the 'primary missions' of federal agencies." TVA v. Hill, 437 U.S. 153, 184-86 (1978). The FCC fails to comply with the ESA, its implementing regulations, and the clear mandates of court decisions applying the ESA.

In accordance with Section 11(g)(2) of the ESA, 16 U.S.C. § 1540(g)(2), the American Bird Conservancy, Friends of the Earth, and Forest Conservation Council gave notice of the violations of the ESA to the FCC and to the Secretary of the Department of Interior by certified mail, return mail receipt requested, on April 12, 2001. For the specific towers approved and registered by the FCC in Hawaii, notice of ESA violations was sent the FCC on April 9, 2004 under Section 11(g)(2) of the ESA The FCC has failed to act to end these violations and litigation is before two U.S. Circuit Courts of Appeals regarding these violations.

The FCC needs to cure these violations of the ESA by formally consulting with the U.S. FWS under Section 7 of the ESA on a nationwide basis to arrive at avoidance and mitigation measures to be adopted by the FCC as suggested by the U.S. FWS Tower Siting Guidelines, and as recommended in Section II above. Such consultations also should be conducted by the FCC, not the tower applicants, where a tower "may adversely affect"an ESA-listed species. Obviously, this needs to occur in Hawaii for the seven towers the FWS has determined require such consultation and for any new towers that "may adversely affect" listed species.

E) MIGRATORY BIRD TREATY ACT VIOLATIONS.

In this section, we answer inquiries in the FCC's NPRM concerning the applicability of the Migratory Bird Treaty Act, 16 U.S.C. § 701 et seq., to the FCC tower approval and registration program. We discuss and detail why the FCC must immediately take action to comply with the MBTA, a strict

liability statute, as the Act imposes an absolute prohibition on any "taking" of migratory birds, unless authorized by a permit. We establish why this prohibition applies even if the taking is unintentional, accidental, or occurs incidentally during an otherwise lawful activity. We also discuss and establish why the MBTA clearly applies to federal agencies, including the FCC.

We and others have repeatedly advised the FCC of its MBTA obligations both in our NOI filings, in the Gulf Coast petition, in the U.S. Court of Appeals for the DC Circuit appeal now pending, and in repeated meetings with FCC staff and Commissioners over the last eight years. Since at least 1999, the U.S. Fish and Wildlife Service has also urged the FCC to act to prevent avian fatalities at towers under its jurisdiction. The FWS filed comments on this FCC NPRM dated February 2, 2007 and signed by Acting Deputy Director Kenneth Stansell. Those comments note: "The unauthorized taking of even one bird is legally considered a '"take"' under MBTA and is a violation of the law." "The Migratory Bird Treaty Act prohibits the taking, killing, possession, transportation, and importation of migratory birds, their eggs, parts, and nests, except when specifically authorized by the Department of the Interior. While the Act has no provision for allowing unauthorized take, it must be recognized that some birds may be killed at structures such as communication towers even if all reasonable measures to avoid it are implemented. The Service's Division [sic Office] of Law Enforcement carries out its mission to protect migratory birds not only through investigations and enforcement, but also through fostering relationships with individuals and industries that proactively seek to eliminate their impacts on migratory birds. While it is not possible under the Act to absolve individuals or companies from liability if they follow these recommended guidelines, the Division of Law Enforcement and Department of Justice have used enforcement and prosecutorial discretion in the past regarding individuals or companies who have made good faith efforts to avoid the take of migratory birds. (Director's September 14, 2000, cover memorandum to the Regional Directors)."

The FWS filing in this NPRM also notes that the September 14, 2000 letter from the U.S. FWS Director, "....in issuing the FWS tower siting guidelines, repeated concerns that the 'The construction of new towers creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. Communication towers are estimated to kill 4-5 million birds per year, which violates the spirit and intent of the Migratory Bird Treaty Act and CAR Part 50 designed to implement the MBTA.' "

We also have advised the FCC that because the FCC has not obtained a permit to "take" migratory birds under the MBTA, or required applicants for

tower licenses to obtain such a permit, or otherwise taken action to avoid unpermitted takings, it is in violation of the MBTA and also of the Administrative Procedure Act (APA) 5 U.S.C. §706, which requires courts to strike down final agency action under where the FCC or other federal agency has acted arbitrarily, capriciously, or otherwise not in accordance with the law. Upon review of the tower approval and registration process, it should be clear that the actions by the FCC are "otherwise not in accordance with the law"and thus violate the APA as migratory birds are "taken" at these towers without permits and this constitutes a violation of the MBTA. .

The FCC persists in its NPRM in again raising the same questions regarding its duties under the MBTA while continuing to ignore the statutory dictates of the MBTA, NEPA, and ESA leading to the deaths of millions of migratory birds protected under the Migratory Bird Treaty Act.

In paragraph 35 of the NPRM, the FCC states: "Courts have rendered differing decisions regarding the scope of the MBTA's applicability to federal agencies. The Commission, however, has indicated that "it is not clear" whether the MBTA applies to the Commissions actions. Nonetheless, some commenters argue that under the MBTA, a party may be liable for any unintentional, incidental death of a migratory bird, such as through a collision with a communications tower. Others contend that the MBTA has a narrower purpose to prohibit only intentional kills of migratory birds, such as by hunting or through a program to control migratory bird population. We seek comment on the nature and scope of the Commission's responsibilities, if any, under this statute. We also seek comment on whether the MBTA gives the Commission (or any agency other than the Department of the Interior) any authority to promulgate regulations to enforce its terms. If the Commission has statutory authority to issue regulations to enforce the MBTA, how could the Commission draft such regulations in a manner that does not impede our responsibility under the Communications Act to ensure the construction of communications towers that are necessary to meet the communications service needs of our nation? We seek comment on these questions.

We again answer those inquiries herein and state that the FCC must end the equivocation and immediately take action to comply with the Migratory Bird Treaty Act 16 U.S.C. § 701 et seq.

A) THE MBTA APPLIES TO THE FCC AND COMMISSION ACTIONS.

The MBTA aims to preserve and restore migratory birds in the United States, a goal the U.S. Supreme Court and the U.S. Court of Appeals for the DC Circuit has recognized as "a national interest of very nearly the first magnitude." *Humane Society v. Glickman*, 217 F.3d 882, 883 (D.C. Cir. 2000) (quoting Justice Holmes in *Missouri v. Holland*, 252 U.S. 416, 435 (1920)).

The MBTA imposes an absolute prohibition on all "taking" of migratory birds, nests, and eggs, unless authorized by permit issued under regulations promulgated by the Secretary of the Department of Interior. 16 U.S.C. § 703. "Take" is defined as to "pursue, hunt, shoot, wound, kill, trap, capture, or

collect." 50 C.F.R. § 10.12 (1997). This prohibition on take without a permit applies to federal agencies, including the FCC. *Humane Society v. Glickman*, 217 F.3d 882, 883 (D.C. Cir. 2000).

In *Humane Society v. Glickman*, the U.S. Court of Appeals for the District of Columbia Circuit explicitly ruled that the MBTA prohibition against take of migratory birds not only applies to private individuals and corporations but also "prohibits federal agencies from killing or taking migratory birds without a permit from the Interior Department." The Court ruled that the MBTA could be enforced by injunctive relief against federal agencies whose actions would constitute prohibited acts. In ruling that the U.S. Department of Agriculture acted contrary to the MBTA by proceeding to take resident Canada Geese at an Air Force base in Virginia without an MBTA permit, the Court stated that, "it would be odd if [federal agencies] were exempt. The Migratory Bird Treaty Act implements the Treaty of 1916. Treaties are undertakings between nations; the terms of a treaty bind the contracting powers……the fact that the Act enforced a treaty between our country and Canada reinforces our conclusion that the broad language of §703 applies to actions of the federal government." And, in fact, this had been the longstanding policy of the Department of the Interior.

The U.S. Court of Appeals for the District of Columbia Circuit is the same Federal Court with jurisdiction over matters pertaining to the FCC. Under the Communications Act of 1934, 47 U.S.C. §151 et seq., jurisdiction for appeals of final FCC decisions and actions rests in the U.S. Court of Appeals. The FCC has many times acknowledged this jurisdiction. Since the FCC is clearly within the jurisdiction of this court-- the U.S. Court of Appeals for the District of Columbia Circuit-- it is bound by its decisions and has a statutory duty to prevent such illegal take. Hence, it is unlawful for the FCC to approve or register the construction of a communication tower if that tower causes the taking of a migratory bird. Such unlawfulness should cease immediately, not after years of delay, but under new rules that should be adopted immediately.

The *Humane Society v. Glickman* decision dictated that Federal agencies are bound by and subject to the MBTA and triggered the issuance of a Director's Order on December 20, 2000 from the Director of the U.S. Fish and Wildlife Service. Director's Order No.131, relying on *Humane Society v. Glickman*, ruled that under this case, all Federal agencies are subject to the jurisdiction of the D.C. Circuit. The Order implements the application of the MBTA consistent with the decision. The Order clearly states that the take of migratory birds by Federal agencies is prohibited unless authorized pursuant to regulations promulgated under the MBTA. The FWS is the federal agency statutorily charged with the implementation and enforcement of the MBTA

and the FCC is bound by the *Humane Society v. Glickman* case and the requirements of the U.S. Fish and Wildlife Service.

The MBTA is not a discretionary statute and prohibits all take of migratory birds without a permit.

Director's Order No.131 reversed a 1997 FWS memorandum to its regional offices stating that federal agencies no longer needed to obtain permits from the FWS before taking or killing bird species protected under the MBTA. That earlier memorandum was based on two other circuit court rulings from the Eighth and Eleventh Circuits that have been superseded by the *Humane Society v. Glickman* case and its applicability to federal agencies, including the FCC.

The United States Supreme Court has also accepted the premise that the MBTA applies to federal agencies. In a 1992 ruling, *Robertson v. Seattle Audubon Society*, 503 U.S. 429, the Supreme Court ruled on the validity of a Congressionally-enacted directive to the U.S. Forest Service to allow timber harvest in a region where the Northern Spotted Owl (a protected species) is found. The Court was called on to determine if implementation of the "Northwest Timber Compromise" by the Forest Service would violate the take prohibitions of the MBTA. The Court's analysis noted that, "Before the Compromise was enacted, the courts adjudicating these MBTA claims were obliged to determine whether the challenged harvesting would "kill" or "take" any northern spotted owl, within the meaning of §2." The ruling hinged on the technical legal issue of the validity of the Congressional directive, and not on the applicability of the MBTA to federal agencies, but the Supreme Court accepted without question the idea that Forest Service timber sales were restricted under the MBTA, indicating that any lower court rulings to the contrary would not pass Supreme Court review.

Another federal court decision within the U.S. Court of Appeals for the District of Columbia Circuit reinforces the conclusion that the MBTA applies to federal agencies. In *Center for Biological Diversity v. Pirie*, 191 F. Supp. 2d 161, the U.S. District Court for the District of Columbia stated plainly that the language of the MBTA, "applies with equal force to federal agencies." In the *Pirie* case, the court ruled the MBTA applied to the U.S. Navy

It is clear from the statute itself, decades of application of the statute, the case law applicable to the FCC and other federal agencies, and from the FWS Director's Order (superseded by a section of the U.S. Fish and Wildlife Service Manual at 724 FW 2) that the MBTA applies to the FCC. Why would the MBTA apply to the U.S. Department of Agriculture and the U.S. Navy and not to the FCC? There are no exemptions in the MBTA for the FCC nor

does any other statute exempt the FCC from the MBTA. The courts with jurisdiction over the FCC have clearly ruled that the MBTA applies to federal agencies and the Director of the U.S. FWS has issued directives implementing the court decisions.

B) *THE MBTA PROHIBITS AND RENDERS A PARTY LIABLE FOR UNINTENTIONAL, INCIDENTAL DEATHS OF MIGRATORY BIRDS, SUCH AS THROUGH COLLISIONS WITH COMMUNICATIONS TOWERS AND RELATED STRUCTURES.*

Since the MBTA is a strict liability statute, which means even unintentional, incidental, or accidental take or killing is prohibited, the FCC is under a legal obligation to conduct its tower registration program in a manner that prevents, or at least minimizes, avian fatalities to comply with the MBTA. The FCC has done neither and continues to violate the MBTA.

How is the FCC bound by the strict liability standards for the take of migratory birds without permits under the MBTA and how do such restrictions apply even if the FWS exercises prosecutorial discretion and does not criminally prosecute the FCC or its licensees? Besides the language of the MBTA, the case law provides clear answers:

1. *Center for Biological Diversity v. Pirie*.

In 2002, the U.S. District Court for the District of Columbia held that the U.S. Navy was violating the MBTA by unintentionally taking migratory birds while otherwise lawfully using a bombing range on one of the Farallon de Medinilla Islands in the Central Pacific Ocean. *Center for Biological Diversity v. Pirie*, 191 F. Supp. 2d 161 (2002). The court noted that §2 of the MBTA (addressing unlawful acts) is worded generally, and that relief other than criminal penalties was available in the form of injunctive relief. The court initially ruled only on this liability issue, and asked for additional briefing on many questions, including the availability and structuring of possible injunctive relief. In a subsequent case, the Court found it had no choice but to enjoin the Navy (and the Air Force) from using the range, and required it to apply for a permit from FWS. *Center for Biological Diversity v. Pirie*, 201 F. Supp. 2d 113 (D.D.C. May 1, 2002). The court stayed the injunction, thereby allowing training activities to continue, and the Congress eventually exempted such military readiness activities from the full application of the MBTA.

It is important to note that the *Center for Biological Diversity v. Pirie* case was not a criminal prosecution, but rather an action brought by a conservation NGO under the federal Administrative Procedure Act (APA), 5 U.S.C. §706. Judicial review under the APA is limited to the question of whether a federal agency acted arbitrarily, capriciously, or otherwise not in

accordance with the law. 5 U.S.C. § 706. Courts apply this standard in suits for violations of the MBTA, and this occurred in *Center for Biological Diversity v. Pirie*. The FCC is subject to the APA, and in granting applications for towers and registering them without requiring migratory bird avoidance measures, the FCC acts arbitrarily, capriciously, and otherwise not in accordance with the law. 5 U.S.C. §706.

Courts apply this standard for suits to enforce the MBTA by citizens and citizen groups, as was the case with the Center for Biological Diversity in the case cited above. Also, the Humane Society of the United States was the plaintiff in the successful case brought against the U.S. Department of Agriculture for proceeding to take resident Canada Geese at an Air Force base in Virginia without an MBTA permit. *Humane Society v. Glickman*, 217 F.3d 882, 883 (D.C. Cir. 2000).

The courts have explicitly ruled in these cases in the Circuit wherein the FCC is located that even absent a criminal prosecution under the MBTA, a party may proceed civilly and seek injunctive relief.

It should be clear that the actions by the FCC in approving and registering communication towers are "otherwise not in accordance with the law" and thus violate the APA as migratory birds are "taken" at these towers without permits and this clearly constitutes a violation of the MBTA.

Unfortunately, the FCC has resisted all attempts to correct this violation and failed to modify the antenna structure program in any way so as to prevent avian fatalities. These violations of the MBTA strict liability prohibitions against the take of federally protected migratory birds should be corrected immediately by the adoption of the measures detailed in Section II above and the U.S. FWS tower siting guidelines.

It should be clear that the actions by the FCC in approving and registering communication towers are "otherwise not in accordance with the law" and thus violate the APA as migratory birds are "taken" at these towers without permits and this constitutes a violation of the MBTA. The Navy argued that it had not violated the MBTA because it did not intend to kill birds. This is parallel to the case with the FCC approving and registering antenna structures. The Navy argued that killing the birds was not the purpose of its actions and hence, the take was not subject to the prohibitions of the MBTA. The *Pirie* court noted that the MBTA applies to both intentional and unintentional takings and that the prosecutorial discretion of the FWS in not criminally prosecuting the case did not make the Navy's actions unreviewable under the APA. The courts then can fashion injunctive relief.

Other cases holding that unintentional, accidental, or incidental take of migratory birds without permits pursuant to otherwise lawful activities was a criminal violation of the MBTA:

2. *U.S. v. Moon Lake Electric Association*.

The case of *U.S. v. Moon Lake Electric Association*, 45 FSupp 2d 1070 (1999), decided in the U.S. District Court for Colorado, and the cases cited therein, also clearly demonstrate the culpability of the FCC and the tower owners/operators in the take of migratory birds at towers through the FCC antenna structure registration program. In *Moon Lake*, the defendant electric co-operative was charged under the MBTA for "taking" migratory birds through accidental electrocution on its power lines and poles. The take of 12 Golden Eagles, 4 Ferruginous Hawks, and 1 Great Horned Owl that were accidentally electrocuted at the electric co-operative's power lines and poles were at the center of the criminal prosecution. Despite the defendants motion to dismiss based on arguments that the MBTA was a hunting statute and applied to willful takings only, the Court disagreed and ordered the case to proceed to trial. Moon Lake subsequently pled guilty and was fined $100,000 and has spent more than $750,000 in modifying its power lines and poles to prevent future electrocutions.

The Federal District Court in *Moon Lake* noted that: "The plain language of the Acts belies Moon Lake's contention that the Acts regulate only "intentionally harmful" conduct. In *United States v. Corrow*, 119 F.3d 796 (10th Cir.1997), cert. denied, 522 U.S. 1133, 118 S.Ct. 1089, 140 L.Ed.2d 146 (1998), the Tenth Circuit joined the majority of Circuit Courts of Appeal in holding that §707(a) of the MBTA is strict liability crime. Id. at 805 (collecting cases). "Simply stated, then, 'it is not necessary to prove that a defendant violated the Migratory Bird Treaty Act with specific intent or guilty knowledge.' " Id. (quoting *United States v. Manning*, 787 F.2d 431, 435 n. 4 (8th Cir.1986)); see also S.Rep. No. 445, at 16, reprinted in 1986 U.S.C.C.A.N. 6113, 6128 ("Nothing in this amendment is intended to alter the 'strict liability' standard for misdemeanor prosecutions under 16 U.S.C. §707(a), a standard which has been upheld by many Federal court decisions."). Thus, whether *Moon Lake* intended to cause the deaths of 17 protected birds is irrelevant to its prosecution under §707(a)."

The FWS comments on this FCC NPRM dated February 2, 2007 and signed by Acting Deputy Director Kenneth Stansell state: "We note that the court in Moon Lake was endorsing the position of the Department of Justice, which brought the prosecution at issue, and which ultimately sets the litigation position of the United States. Thus, it is our opinion that the Commission should require its licensees to adopt and comply with all reasonable and prudent measures to avoid take of migratory birds, particularly endangered and threatened birds, bald eagles and species of conservation concern.

Requiring licensees to maximize collocation opportunities is an excellent example of such a 'reasonable and prudent' measure." (The FWS comment letter to the FCC on this NPRM further provides very specific measures the FCC should take to comply with the MBTA, NEPA, and the ESA).

The *Moon Lake* case also cites other federal prosecutions under the MBTA of unintentional takes of migratory birds that were upheld by the courts, including cases establishing that the Migratory Bird Treaty Act reaches as far as direct, though unintended, bird poisonings from toxic substances:

3. *United States v. FMC Corp.*
In *United States v. FMC Corp.*, 572 F.2d 902 (2d Cir.1978), the Court found it sufficient that a defendant created hazardous circumstances that ultimately killed migratory birds, though the defendant had no intention of harming such birds by dumping waste water; and

4. *United States v. Corbin Farm Serv.*
In *United States v. Corbin Farm Serv.*, 444 F.Supp. 510 (E.D.Cal.), aff'd on other grounds, 578 F.2d 259 (9th Cir.1978), the Court ruled that an MBTA prosecution could be pursued where birds died after feeding on a crop sprayed with a registered pesticide.

Other cases where the take of birds was not deliberate and did not involve hunting or poaching but the Court approved criminal prosecutions under the MBTA:

5. *United States v. Stuarco Oil Co.*
In *United States v. Stuarco Oil Co.*, 73-CR- 129 (D.Colo., Aug. 17, 1973), an oil company was charged with 23 counts for the death of 23 birds resulting from the company's failure to build oil sump pits in a manner that could keep birds away; defendant pled nolo contendere to 17 counts.

6. *United States v. Union Texas Petroleum.*
In *United States v. Union Texas Petroleum*, 73-CR-127 (D.Colo., July 11, 1973), a prosecution was upheld under the MBTA of an oil company for maintenance of an oil sump pit that killed migratory birds; disposition unknown.

7. *United States v. Equity Corp.*
In *United States v. Equity Corp.*, Cr. 75-51 (D.Utah, Dec. 8, 1975), an oil company was charged with 14 counts for the death of 14 ducks caused by the company's oil sump pits; oil company pled guilty and was fined $7,000.

8. *U.S. v. FMC.*

In U.S. v. FMC, 572 F.2d 902 (2d Cir.1978), a prosecution under the MBTA was upheld of a pesticide manufacturer for dumping wastewater into a ten-acre pond, thereby accidentally causing the death of Horned Larks, Green Herons, Canada Geese, Ring-billed Gulls, Short-billed Dowitchers, Least Sandpipers, and migratory Fringillids; manufacturer fined $1,800.

Importantly, numerous courts have held that a government agency that issues licenses or permits to a private commercial actor, whose operations in turn injured or killed listed species, is itself liable for a "take." See, e.g., *Strahan v. Coxe*, 127 F.3d 155, 163 (1st Cir. 1997). The same reasoning can be applied to FCC decisions to approve and register communication towers that kill species listed under the MBTA. To date, the FCC has no MBTA permits to take migratory birds and it is undisputed that antenna structures the FCC approves and registers result in the taking of migratory birds protected by the MBTA. Hence under the MBTA and the APA, the FCC is in violation of the basic prohibitions against the take of migratory birds and must act to correct these violations at existing and current antenna structures under its jurisdiction.

The FCC has been aware of the MBTA problem since at least 1999 when this was raised with the agency by the U.S. FWS and conservation groups. Also, the FCC and industry were alerted to this issue by a Telecom Land Management Law Report article of September 1999, Volume 1, No. 11, entitled *Migratory Bird Act Can Mean Trouble for Tower Owners*. The trade publication notes recent cases and the possibility of MBTA prosecutions for the illegal take at towers of migratory birds. The article quotes a FWS spokesman noting that "There's no reason why the law couldn't be applied in a situation of a bird kill at a telecommunications tower." This article was provided to the FCC.

C) THE MAGNITUDE OF MIGRATORY BIRD TAKE AT COMMUNICATION TOWERS IS IRRELEVANT TO THE APPLICABILITY OF THE MBTA.

In paragraph 37 of the NPRM, the FCC states: "Understanding the scope of any problem involving communications towers and migratory birds is essential to devising meaningful solutions consistent with our responsibilities under the Communications Act and other federal statutes. In particular, we seek comment on whether the evidence concerning the impact of communications towers on migratory bird mortality adduced in response to the questions posed in paragraph 36 is sufficient to justify and/or authorize Commission action under the legal standards discussed in response to the questions posed in paragraph 34."

The NPRM query linking the applicability of the MBTA to the impact of communication towers on migratory bird mortality is without merit. The MBTA imposes an absolute prohibition on all taking of migratory birds and the MBTA does not have a threshold for such a prohibition to be activated.

The MBTA is unequivocal in the prohibition on the take of even one migratory bird without a permit. The cases cited herein sometimes involve only a few birds. The U.S. FWS, the federal agency tasked with enforcing the MBTA, has unequivocally advised the FCC that "The unauthorized taking of even one bird is legally considered a "'take"' under MBTA and is a violation of the law.", and further that unintentional take at communication towers is actionable. See the U.S. FWS comment letter of February 2, 2007 on this NPRM.

The *Moon Lake* case is but one example cited of such actionable unintentional take and involved the take of 17 birds accidentally electrocuted on power lines and this led to a criminal MBTA conviction; in *United States v. Equity Corp.*, an oil company was charged with 14 counts for the death of 14 ducks caused by the company's oil sump pits and the oil company pled guilty and was fined $7,000. Even if an FCC approved and registered tower kills only one migratory bird, the FCC is obligated to act under the MBTA to either obtain a permit or to prevent such mortality.

Unfortunately, the take of migratory birds at communication towers is in the millions, and one night kills can exceed 10,000 migratory birds at ONE tower. We and others have repeatedly documented the take of millions of migratory birds and do so again in this document. A 38-year study of a single television tower in west central Wisconsin documented 121,560 birds killed representing 123 species, primarily long-distance migratory neotropical birds. *A Study of Bird Mortality at a West Central Wisconsin TV Tower from 1957-1995*, by Dr. Charles Kemper, The Passenger Pigeon, Vol. 58, No. 3, pp. 219-235. (1996).

A 29-year study by the Tall Timbers Research station at a Florida TV tower documented the killing of over 44,000 birds of 186 species, 94% of which were migratory neotropical birds. *Characteristics of Avian Mortality at a North Florida Television Tower: A 29-year Study*, Robert L. Crawford and R. Todd Engstrom, Journal of Field Ornithology: Vol. 72, No. 3, pp.380-388, (2001). In a review of other bird kills, more than 542,000 birds of 230 species were identified as being killed at FCC registered towers, the vast majority of them migratory birds. *Communication Towers: A Deadly Hazard to Birds, by Shire, G., et al.* American Bird Conservancy. (June 2000).

Each one of these takes of a migratory bird is a violation of the MBTA as no permits were issued for such takes and the FCC has a statutory duty to take action to prevent this illegal take of migratory birds whether the annual take is 4 million or 50 million.

D) THE FCC NOT ONLY HAS THE AUTHORITY UNDER THE MBTA BUT THE AFFIRMATIVE DUTY TO ADOPT RULES TO PREVENT THE TAKE OF MIGRATORY BIRDS. The NPRM posits the question as to whether the MBTA gives the Commission any authority to promulgate regulations to enforce its terms. The query continues: "If the Commission has statutory authority to issue regulations to enforce the MBTA, how could the Commission draft such regulations in a manner that does not impede our responsibility under the Communications Act to ensure the construction of communications towers that are necessary to meet the communications service needs of our nation? We seek comment on these questions."

Clearly, the FCC has a statutory duty to comply with all federal laws, unless exempted. These laws include our nation's environmental and wildlife conservation laws. NEPA, ESA, and MBTA not only authorize the FCC to act and adopt the necessary rules to prevent the killing of migratory birds, but require the FCC to bring its tower approval and registration program into compliance with these statutes. Under the statutes and case law cited above, it should be clear that the FCC must act under the MBTA to prevent the take of migratory birds, or at least, to minimize such take. See both the MBTA and APA, and the cases cited and discussed above.

The U.S. FWS comment letter filed on this NPRM and cited above in this Section clearly advises the FCC of its duty to act to comply with the MBTA and unequivocally states that concerning migratory bird kills at towers: "In addition to the fact that these 'takings' are in violation of the MBTA and the spirit and intent of Executive Order 13186, they may also be impacting avifauna at a population level, especially for 'species of conservation concern' and State and Federally-listed birds."

On September 14, 2000, the U.S. FWS issued its Guidance Document on the Siting, Construction, Operation and Decommissioning of Communications Towers. In issuing the Guidelines, the U.S. FWS Director repeated concerns that the "The construction of new towers creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. Communication towers are estimated to kill 4-5 million birds per year, **which violates the spirit and intent of the Migratory Bird Treaty Act and CAR Part 50 designed to implement the MBTA (**emphasis added). Some of the species are also protected under the Endangered Species Act and Bald and Golden Eagle Act."

The Director noted that "These guidelines were developed by Service personnel from research conducted in several eastern, midwestern, and southern states, and have been refined through Regional review. They are based on the best information available at this time, and are the most

prudent and effective measures for avoiding bird strikes at towers. We believe that they will provide significant protection for migratory birds pending completion of the Working Group's recommendations. As new information becomes available, the guidelines will be updated accordingly."

On November 20, 2000, the U.S. FWS Director wrote to the FCC Chairman, attaching the Guidelines and urging the Chairman to have tower owners and operators adopt "the best measures available for avoiding fatal bird collisions....We believe that widespread use of these guidelines will significantly reduce the loss of migratory birds at towers." U.S. FWS letter attached. The FCC has had the FWS Guidelines for more than 6.5 years and has failed to incorporate any of the measures into its rules or tower approval and registration process.

The FWS in its comment letter on this NPRM again advises the FCC that "While it is not possible under the Act to absolve individuals or companies from liability if they follow these recommended guidelines, the Division of Law Enforcement and Department of Justice have used enforcement and prosecutorial discretion in the past regarding individuals or companies who have made good faith efforts to avoid the take of migratory birds." But the FCC continues to resist the adoption of any of these measures to prevent avian mortality at towers.

The FWS Guidelines, the measures recommend in the FWS February 2, 2007 letter on this NPRM, and the measures we recommend in Section II above should be put into rules immediately and would bring the FCC into compliance with the MBTA and other federal statutes. These measures would not in any way impede FCC responsibility under the Communications Act to ensure the construction of communications towers that are necessary to meet the communications service needs of our nation. For example, by simply requiring co-location of antenna on existing structures where possible, how could the communications service needs of our nation be impeded? Or how can requiring aviation safety lights to be exclusively white or red strobes at night impede our nation's communications service needs? Whether the tower structure holding the antenna necessary to transmit communication signals has a read steady burning light that attracts birds to their deaths or a white or red strobe should in no way impede our nation's communications service needs.

Compliance with the MBTA can be achieved by taking action to eliminate, or at least minimize the "takes" of migratory birds at existing and new communication towers. This can be done by requiring communication towers to be appropriately sited, constructed, and operated through the tower registration process and through the use of the measures we have detailed in

Section II above and in the U.S. FWS Guidelines. These processes and measures clearly demonstrate that bird fatalities could be eliminated, or at least minimized, with simple changes in tower siting, lighting, and operation, including modifications to lighting of existing structures. Importantly, this could be done without in any way inhibiting the expansion and provision of communication services, and needs to be done on new towers, and on the lighting systems of existing towers by eliminating steady burning red aviation safety lights (L-810).

Such lighting changes have been documented in the Dr. Gehring and Dr. Kerlinger Michigan research (Report II) to decrease bird deaths by up to 70% without in any way impeding the provision of communication services. Indeed, in this Report, the authors note that "Our study is the first to compare collision rates at communication towers equipped with different types of FAA obstruction lighting. The results also provide the first scientifically validated and economically feasible means of reducing fatalities of night migrating birds at communication towers....By simply removing the L-810 lights from all communication towers, it is possible that more than one to two plus million bird collisions with communication towers might be averted each year....The elimination of steady burning, red L-810 lights, leaving only flashing L-864 lights would also be beneficial for tower owners. Although fatalities would not be completely eliminated, the numbers of fatalities would undoubtedly be reduced greatly. The economic incentive for removing L-810 lights is substantial. Electric consumption, and therefore electric costs, as well as tower maintenance costs (changing of bulbs –labor and bulb cost) would be greatly reduced. The elimination of these same lights would also benefit the Federal Communication Commission (FCC) and the Federal Aviation Administration (FAA). Because the FCC is tasked with licensing towers under the National Environmental Policy Act (NEPA), they should welcome a means of reducing fatalities thereby increasing federal compliance with the Migratory Bird Treaty Act (MBTA). A similar situation exists for the FAA. By recommending L-810 steady burning red lights, the FAA advisory circular basically makes it difficult for tower owners and operators, not to mention the FCC, to comply with the MBTA. Removal of the L-810 lights from towers should be encouraged by both the FCC and FAA." See Gehring, Joelle and Kerlinger, Paul, *Avian collisions at communication towers: II. The role of Federal Aviation Administration obstruction lighting systems*, Prepared for: State of Michigan (March 2007).

The Dr. Gehring and Dr. Kerlinger Michigan research (Report I) verifies that guy wired towers killed 16X more birds than unguyed towers of the same height and lighting. The authors note that "According to these data bird fatalities may be prevented by 69% -100% by constructing unguyed towers instead of guyed towers. Gehring, Joelle and Kerlinger, Paul, *Avian collisions*

at communication towers: I. The role of tower height and guy wires, Prepared for: State of Michigan (March 2007). How can trying to keep guy wires off of new tower structures impede the provision of communication services?

The Dr. Gehring and Dr. Kerlinger Michigan research (Report I) finds that "Minimizing tower height is also an important consideration in reducing avian fatalities at communication towers. Our results also support the prediction that many more avian collisions occur at taller towers. Data indicate that 68%-86% fewer fatalities were registered at guyed towers 116-146 m AGL than at towers > 305 m AGL. Similarly, a long-term study at a communication tower in Florida detected a dramatic decrease in bird fatalities after the tower height was decreased from 308 m to 91 m AGL (Kerlinger 2000)....Tall guyed towers were responsible for about 70 times as many birds fatalities as the 116-146 m unguyed towers and nearly 5 times as many as guyed towers 116-146 m. These data provide managers and regulators with the first quantitative data for establishing best practices to minimize collision fatalities of migrating and other birds at federally licensed communication towers."

The authors in Report I also note that "Given the increasing number of communication towers in the U.S. and a growing interest in addressing the bird collision issue, this study is of particular importance (Shire et al. 2000, Erickson et al. 2001, FCC 2003, 2005, 2006). Our results show that bird fatalities may be reduced by 69% to nearly 100% by constructing unguyed towers instead of guyed towers, and 54%-86% by constructing guyed towers 116-146 m AGL instead of guyed towers >305 m AGL."
Both of these recently published research reports were submitted to the FCC as part of this NPRM.

Any implications that adopting new rules to comply with the MBTA (or NEPA or ESA) somehow might interfere with the FCC goal of fulfilling the nation's communication needs are without merit. Gehring and Kerlinger in Report II conclude that: "Changing lights on existing and new communication towers provides a feasible means to dramatically reduce collision fatalities at communication towers (two other methods include tower height reduction and guy wire elimination on new towers). One advantage of our findings is that lighting can be changed at minimal cost on existing towers and such changes on new or existing towers greatly reduces the cost of operating towers. Removing L-810 lights from towers is one of the most effective means of achieving a significant reduction in avian fatalities at existing communication towers."

Further, generalized concerns about the FCC complying with the MBTA (and NEPA and the ESA) do not absolve the FCC from complying with these

statutes, especially when they can be complied with without in any way preventing the FCC from fulfilling the nation's communication needs. The evidence is clear that towers can be constructed and operated to prevent most, if not all, avian mortality without impeding the provision of communication services. But even if the FCC determines that for some reason it cannot prevent migratory bird fatalities caused by towers without in some way impeding communication services, the FCC and tower owners and operators are still bound by the prohibitions of the MBTA.

Also, the FCC should act immediately to amend its current rules for the conduct of environmental review by tower applicants in 47 C.F.R. §§1.1301 et seq. See the discussion above. These FCC regulations spell out a checklist of environmental items that might trigger the applicant to prepare an Environmental Assessment but these omit consideration of migratory bird impacts. Unless a migratory bird is an ESA-listed species, there is no specific consideration whatsoever that must be given to impacts of an antenna structure on migratory birds. Despite the prohibitions of take of migratory birds under the MBTA, the FCC does not require a tower applicant to review or note any possible impact on these federally protected species. This deficiency has been raised repeatedly with the FCC since 1999 and changes in 47 C.F.R. §§1.1301 et seq. to cover migratory birds have been suggested.

The FCC should incorporate migratory bird impacts into all future NEPA analyses and should begin a detailed programmatic EIS on the extent of bird kills at communication towers, the causes, and solutions. This EIS should not delay the adoption of the measures to prevent mortality detailed herein.

We note that the electric power industry has joined with the U.S. FWS and conservation groups, and more than two decades ago formed and funded the Avian Power Line Interaction Committee. This industry/government/conservation NGO group has identified key prevention measures to prevent avian fatalities at power lines and poles and published detailed guideline manuals in both English and Spanish. The APLIC group also helped foster the adoption of Memorandum of Agreements with the FWS beginning in the late 1980s that saw electric utilities adopt mitigation measures and avoid any MBTA prosecutions. Recently, the FWS and industry have joined together to foster the adoption of Avian Avoidance Plans by industry. See: http://www.aplic.org/.

Unfortunately, the FCC and tower and communication industries have not followed this example of cooperation, and the FCC and industry continue to avoid any measures that would change the status quo.

IV. COMMUNICATION TOWERS ADVERSELY AFFECT MIGRATORY BIRDS; IMPACT IS SIGNIFICANT AND FCC ACTION IS REQUIRED.

The Notice of Proposed Rulemaking, in seeking comment on whether the Federal Communication Commission should take measures to reduce the number of instances in which migratory birds collide with communications towers, requests comments on the extent of any effect of communications towers on migratory birds and whether any such effect warrants regulations specifically designed to protect migratory birds. The NPRM seeks comment on research/evidence to demonstrate an environmental problem that would authorize or require that the Commission take action. The FCC posits the question: Is there probative evidence that communications towers are adversely affecting migratory birds?

The FCC also seeks further comment supported by evidence regarding the number of migratory birds killed annually by communications towers. Where possible, commenters are encouraged to support their estimates with scientifically reviewed studies.

We have amply demonstrated in our comments above and in previous filings with the FCC the legal requirements and basis for FCC action to prevent avian mortality at antenna structures under the FCC's jurisdiction. We have previously detailed the changes that need to be made to bring the FCC into compliance with NEPA, ESA, and MBTA, and we do again in Sections II and III above and in Section V below, as well as in this section. We will not dwell on those requirements and measures in this section, but will directly document again in this section the environmental significance of avian mortality caused by antenna structures under the jurisdiction of the FCC.

However, we again must point out that the FCC has asked these same or similar questions before in its August 2003 Notice of Inquiry (NOI) on Migratory Bird Collisions with Communication Towers and Birds in WT Dkt. No. 03-187. We and others submitted comments and replies on the NOI concluding in December 2003 in anticipation of the FCC ending its inaction and adopting measures to prevent, or at least minimize, avian mortality at towers so as to come into compliance with NEPA, MBTA, and ESA requirements. But, the FCC instead retained Avatar in May 2004 to review the comments submitted on the NOI, and then again failed to act after publication of the Avatar findings in December 2004. Instead the FCC asked for more comments on the review of comments by Avatar. We and others again submitted detailed comments on February 14, 2005 that were accompanied by a rigorous Report completed by scientists at Land Protection Partners. These comments detailed significant impacts to birds from towers and detailed measures that could be taken by the FCC to prevent these

fatalities at towers. We then submitted reply comments to the FCC on this Avatar Report matter on March 9, 2005, supplemented with another detailed Report completed by scientists at Land Protection Partners.
The U.S. FWS submitted reply comments on the Avatar Report noting that "In our opinion, the LPP comments provide a detailed and scientifically-sound analysis of current avian-communication tower interactions." "The population impacts to migratory songbirds (and other avifauna) and impacts to their population status are frightening and biologically significant." After submittal of comments on the Avatar report, the FCC again failed to do anything to change the status quo in its antenna structure approval and registration program and still has made no changes to better protect avian species.

The U.S. FWS has more recently documented the significant nature of these bird kills at towers. The U.S. Fish and Wildlife Service filed comments on this FCC NPRM dated February 2, 2007 and signed by Acting Deputy Director Kenneth Stansell. Those comments note: "The U.S. peer-reviewed scientific literature documents many examples of substantial tower kills. For example, since 1948 when Aronoff (1949) described a large bird kill at a radio tower near Baltimore, Maryland, the scientific literature has been replete with references to large bird kills and results of long-term tower mortality monitoring studies.

Communication towers in aggregate nationwide are estimated to continue to take a significant number of migratory birds each year in the United States. Since the mid-1970s, the Service has developed several estimates of mortality from collisions with communication towers. We did this because the FCC does not require licensees or operators to monitor or even report bird mortality and because reported mortality in the literature only represents a small fraction of total number of collision deaths. Banks (1979) assessed avian mortality at some 505 of the then existing 1,010 tall radio and television towers in the U.S. in 1975, estimating 1.25 million birds killed/year at towers. Evans (1998), collaborating with FWS, reassessed mortality based on increased numbers of tall towers considerably greater in number than what Banks had studied in 1975, estimating 2-4 million birds killed/year. Manville (2001a), based on a 1999 evaluation, estimated some 4-5 million bird deaths per year from tower collisions in the U.S. as tower placement continued to grow exponentially. However, in 2000, Manville (2001b) again cited the 4-5 million annual mortality estimate, but indicated that mortality could range as high as 40-50 million birds deaths per year, the latter estimate, however, predicated on validation through a nationwide cumulative impacts analysis of U.S. communication tower effects on migratory birds. The Service more recently reiterated the latter mortality estimate — conservatively 4-5 million, to perhaps as high as 40-50 million birds killed per year (Manville 2005).

In addition to the fact that these 'takings' are in violation of the MBTA and the spirit and intent of Executive Order 13186, they may also be impacting avifauna at a population level, especially for 'species of conservation concern' and State and Federally-listed birds."

From August 2002, when ABC and others filed its Gulf Coast petition seeking action on tower kills from the FCC, until the FCC was forced to act on April 11, 2006 by a pending court suit, the FCC failed to act on the Petition. The FCC dismissed the Petition on April 11, 2006, never finalized the NOI, and committed to publishing a NPRM to deal with the bird kill problem. The FCC Order did state "We intend to complete our review of the record in the Migratory Bird NOI." To our knowledge, this still has not been done.

On November 22, 2006, the FCC published this Notice of Proposed Rulemaking that proposes no new rules, but instead asks many of the same questions as previously posited in 2003 in the NOI. This NPRM further delays any actions by the FCC to fulfill its statutory obligations under NEPA, MBTA, and ESA. During the pendency of all of these matters, many millions of migratory birds protected under the MBTA, have been killed at towers. We again request that our previous comments and those of Longcore et al. Land Protection Partners Reports (2005) filed previously in the FCC NOI be incorporated by reference with our comments on this NPRM and we are again providing copies of these documents to the FCC.

In 1999, the U.S. FWS Director urged the FCC to comply with NEPA and complete an EIS on bird kills at towers. The Director noted in that letter that "The cumulative impacts of the proliferation of communication towers on migratory birds, added to the combined cumulative impacts of all other mortality factors, could significantly affect populations of many species." Letter from Jamie Rappaport Clark, Director, FWS to William Kennard, Chairman, FCC (Nov. 2, 1999).

Despite this urging by the governmental agency tasked by law with the conservation of migratory birds, and despite the repeated documentation of the significance of bird kills at towers, the FCC has persisted in its refusal to comply with NEPA, MBTA, and ESA and has failed to complete a programmatic EIS, end the categorical exclusion of its tower program, and failed to comply with the requirements of the MBTA and ESA.

We have repeatedly submitted documentation on the extent of avian mortality and the avian species that are disproportionately affected by mortality at towers. Our previous filings with the FCC, including the detailed Longcore et al. Land Protection Partners Reports (2005) and Longcore et al. Land Protection Partners Analysis (2007), and the data cited from the U.S. FWS and other authors,

document this mortality and that the mortality is at least 4.3 million birds annually, and may be much higher.

As the FCC already knows, the exact number of birds killed annually at communication towers is unknown because the FCC has failed to require any systematic avian fatality surveys at ~100,000 lit towers under its jurisdiction. Nor have the tower operators and owners conducted such surveys. In reality, the FCC has never required such surveys except in one or two rare cases such as with the Michigan State Police towers built in violation of the FCC lax environmental rules.

In the Dr. Gehring and Dr. Kerlinger Michigan study Reports filed in this NPRM, the researchers documented mortality at more than one-half of the 24 towers that were randomly selected to be studied in the Michigan tower study, which further documents that when examined, most communication towers are shown to kill birds.

Dr. Gehring and Dr. Kerlinger in their Report I note at the outset that "Avian fatalities have been documented at communication towers for more than 55 years (Aronoff 1949, Bernard 1966, Avery et al. 1980, Shire at al. 2000, Kerlinger 2000). Past research suggests that birds, primarily night migrating songbirds, collide with towers of varying heights, especially when night skies are overcast, foggy, or when there is precipitation (Caldwell and Wallace 1966, Avery et al. 1976, Larkin and Frase 1988, Kruse 1996). Large-scale events involving dozens to hundreds of birds have been recorded during inclement weather. However, birds also collide with towers or guy wires on clear nights. It is believed that large numbers of night migrants can be attracted to or disoriented by the lights of tall structures, such as communication towers (Larkin 2000), resulting in collisions. Banks (1979) estimated that 1.25 million birds per year collided with communication towers, although a recent estimate cites 4-5 million or more birds per year (Manville 2001, Kerlinger 2000). Banks' estimates were derived from sporadic studies at eight guyed towers >800 feet Above Ground Level (AGL). Some of the studies available to Banks recorded thousands of birds colliding with individual towers during a single night of migration (Breckenridge 1958, Bernard 1966, Kemper 1964). Shire et al. (2000) compiled documented cases of bird mortalities at about 50 tall guyed communication towers in the U.S. and tallied about 230 species."

While the exact number of birds killed at towers is not known, we do know from the best science and documentation available, that at least 4 million birds annually are killed at towers under FCC jurisdiction. For literature review compilations on the number and species of birds killed at towers see: Shire, G.G., K. Brown, and G. Winegrad. 2000. *Communication towers: a deadly hazard to birds*. American Bird Conservancy, Washington, D.C. Weir, R.D. 1976;

Annotated bibliography of bird kills at man-made obstacles: a review of the state of the art and solutions. Department of Fisheries and the Environment, Environmental Management Service, Canadian Wildlife Service, Ontario Region, Ottawa; and Avery, M.L., P.F. Springer, and N.S. Dailey. 1980. Avian mortality at man-made structures: an annotated bibliography (revised). FWS/OBS-80-54. U.S. Fish and Wildlife Service, Washington, D.C.

As further examples of the peer reviewed documentation of avian mortality and the species affected at individual towers, we again cite:
1) a 38-year study of a single 1,000-foot television tower in west central Wisconsin that documented 121,560 birds killed representing 123 species. *A Study of Bird Mortality at a West Central Wisconsin TV Tower from 1957-1995*, by Dr. Charles Kemper, The Passenger Pigeon, Vol. 58, No. 3, Pp. 219-235 (1996); and
2) a 29-year study at a Florida television tower documented the killing of more than 44,000 birds of 186 species. *Characteristics of Avian Mortality at a North Florida Television Tower: A 29-year Study*, Robert L. Crawford and R. Todd Engstrom, Journal of Field Ornithology: Vol. 72, No. 3, pp.380-388, (2001).

The fatalities reported in these latter two studies are not upwardly adjusted for predator removal or searcher efficiency, so the numbers of birds killed were higher than reported. These studies and many of the other studies cited are <u>not</u> anecdotal, and confirm what all other such studies document: the species of birds killed at towers are not evenly and randomly distributed. Most all birds killed at towers-- 90% to 94% in these studies--are neotropical, migratory birds, with nearly all of these species night migrants. A significant proportion of bird kills occur in the fall migration, and the next greatest mortality occurs during the spring migration, with many fewer birds killed at other times of the year.

At a 1999 Avian Mortality at Communication Towers Symposium at Cornell University, two scientists at the Tall Timbers Research Station in Florida and the authors of the Journal of Field Ornithology article above (Robert L. Crawford and R. Todd Engstrom) stated: "We feel that R. D. Weir's 1976 quote still sums up the state of knowledge about these events: 'Nocturnal bird kills are virtually certain wherever an obstacle extends into the air space where birds are flying in migration. The time of year, siting, height, lighting, and cross sectional area of the obstacle and weather conditions will determine the magnitude of the kill'".

The Avatar Report, commissioned by the FCC, documents and finds that "Overall, there is general agreement that there is sufficient documented evidence of avian mortality by communication towers and that the construction and operation of tall structures will likely result in the risk of bird collisions and possible mortalities....That birds are colliding with towers has been well documented." Avatar Report, pages 3-19 and 3-20.

The Avatar Report further notes several sources estimating that mortality is between 2 million to 5 million birds per year, but ignores the letter (cited above and attached) to the FCC Chairman from the Director of the U.S. FWS dated November 2, 1999 where the Director references data that indicate the annual killing of migratory birds from communication towers is at least 4 million to an order of magnitude above this: 40 million birds. The Director points out the deficiencies in current FCC regulations that we have noted repeatedly before and notes that "....substantial losses of migratory birds are not being accounted for in FCC's permit and NEPA decision-making process."

The Avatar Report does conclude that "Although biologically significant tower kills have not been demonstrated in the literature, the potential does exist, especially for threatened and endangered species." Avatar Report, page 5-2. We believe that this submittal and previous submittals, coupled with the Longcore et al. Land Protection Partners Reports (2005) and Longcore et al. Land Protection Partners Analysis (2007) amply demonstrate that avian fatalities of certain bird species are biologically significant. See Longcore et al. Land Protection Partners Analysis (2007).

Over the years since 1998, the FCC Commissioners, the Commissioners' personal staff, and the staff of various FCC divisions have received extensive documentation of the past and current killing of migratory birds at communication towers. This data has been provided to the FCC by the U.S. FWS, the undersigned, scientists, conservationists, and individual tower objectors, appellants, and declarants in tower appeal cases, and in a court suit, *In Re: Forest Conservation Council, Inc., et al., vs. FCC* in the U.S. Court of Appeals for the D.C. Circuit.

Accounts of bird kills at tall, lighted structures have appeared in North American scientific literature since at least 1880. The Avatar Report further details the extensive literature documenting avian mortality, sometimes numbering in the thousands in one night. Estimates by Dr. Albert Manville of the U.S. FWS indicate mortality at 4 million to 5 million birds annually, with the possibility of mortality an order of magnitude higher–40 million to 50 million. See Manville, A.M., II. 2001. *The ABCs of avoiding bird collisions at communication towers: next steps*. Pp. 85––103, 324, 330, in R.G. Carlton (ed.). Proceedings of Workshop on Avian Interactions with Utility and Communication Structures, December 2––3, 1999, Charleston, South Carolina. Electric Power Research Institute, Palo Alto, California. Manville, A.M., II. 2001. *Avian mortality at communication towers: steps to alleviate a growing problem*. Pp. 75––86, 227––228 in B.B. Levitt (ed.). Cell Towers: Wireless Convenience? or Environmental Hazard?: Proceedings of the Cell Towers Forum State of Science/State of Law, December 2, 2000, Litchfield, Connecticut.

For detailed bibliographies of avian fatalities at communication towers and other human built structures see:

Bird Kills at Towers and Other Man-Made Structures: An Annotated Partial Bibliography (1960-1998). This is an on-line bibliography created by the U.S. Fish and Wildlife Service's Office of Migratory Bird Management. It currently contains 125 citations, 83 of which have been published since 1980 and 24 of which are linked to Internet sites. This site has links to articles on tower kills in the popular press. Go to: http://migratorybirds.fws.gov/issues/tower.html .

Two older annotated bibliographies on birds killed at man-made structures that were published in the late 1970s by the Canadian Wildlife Service (CWS) and the United States Fish and Wildlife Service (USFWS):

Weir, R.D. 1976. Annotated bibliography of bird kills at man-made obstacles: a review of the state of the art and solutions. Can. Wildl. Serv., Ont. Reg., Ottawa. 85 pp.

Avery, M.L., P.F. Springer, and N.S. Dailey. (1980). Avian mortality at man-made structures: An annotated bibliography (revised from 1978 ed.). U.S. Fish and Wildlife Service, Biological Services Program, National Power Plant Team, FWS/OBS-80/54.

A re-compilation of these references along with updated material is now available online from the California Energy commission's web site. Avian Collision and Electrocution: An Annotated Bibliography contains entries mainly from 1876 to 1992. Go to: http://www.energy.ca.gov/reports/avian_bibliography.html

The three scientists who prepared the Land Protection Partners report filed with the FCC in February 2005 have completed a new analysis and have submitted it to the FCC as part of this NPRM process. After an intensive literature review and statistical review by other top scientists of their previous Report, they now conservatively estimate an annual mortality from towers of at least ~4.3 million birds per year, which is consistent with the current U.S. FWS estimate of at least 4 million to 5 million birds per year. They and other scientists plan to have this document published in a peer-reviewed journal. See again, Longcore, T. C. Rich, S.A. Gauthreaux Jr., B. MacDonald, and L.M. Sullivan. In preparation. *Is mortality of birds at communication towers biologically significant?* Note that the authors believe this is a very conservative estimate and they discuss this in their comments submitted on this NPRM.

The three authors of the LPP filings are Travis Longcore, Ph.D., Catherine Rich, J.D., M.A., and Sidney A. Gauthreaux, Jr., Ph.D. Ms. Rich and Dr. Longcore are co-editors of a book released in December 2005, *Ecological Consequences of Artificial Night Lighting*. Dr. Gauthreaux has been a pioneer in the use of DOPPLER weather radar to detect and estimate migratory bird numbers and movement. He has also conducted critical research at communication towers on

lighting effects on birds. His study is cited and discussed in the LPP analysis as Gauthreaux and Belser, *Effects of artificial night lighting on migrating birds* in Ecological Consequences of Artificial Night Lighting, (2005).

In our comments submitted on February 14, 2005 to the FCC on the Avatar Report which was completed for the FCC to summarize the comments in the FCC Notice of Inquiry, *In the Matter of Effects of Communications Towers on Migratory Birds*, we submitted the Land Protection Partners Analysis that found that:
"Assessment of the cumulative significance of tower-caused avian mortality is confounded by the absence of monitoring at a large number of towers. Because the FCC does not require monitoring at towers that it registers or otherwise approves, and because tower operators do not conduct such monitoring, bird kills reported in the literature represent only a minimum measurement of the total mortality. The majority of tower sites are never checked for mortality and even those that are checked are done so only on a sporadic basis. In addition, the reported numbers are based on actual carcasses found and there is no extrapolation for predator/scavenger removal or search efficiency. This means, as the Avatar Report notes, that the numbers of birds killed are higher than reported. Two of the longer-term studies with periodic searches confirm that numbers of birds killed can be significant at one tower: a 38-year study of a single 1,000-foot television tower in west central Wisconsin documented 121,560 birds killed representing 123 species, and a 29-year study at a Florida television tower documented the killing of more than 44,000 birds of 186 species. Neither of these studies adjusted carcass counts upward to account for search efficiency and predator/scavenger removal. We do know that communications towers kill millions of birds annually, and that a very high percentage of these are neotropical migratory birds that migrate at night."

If any one factor can be blamed for the inability to definitively document how many birds are killed at towers annually, it is the failure of the FCC to require monitoring for avian mortality at communication towers, a flaw that still exists. Such monitoring is required for many of the wind turbine projects in the U.S., and carcasses found are adjusted upward for predator removal and searcher efficiency to derive more accurate numbers of bird fatalities. We agree with the Avatar Report that standardized monitoring needs to be established. The model cited from the wind energy industry is a good one.

Since the FCC does not require bird kill monitoring and since the telecommunication industry and tower owners/operators refuse to conduct or fund monitoring or research, how will such standardized protocols be implemented and where? The FCC should immediately require scientifically based monitoring for avian mortality at least at communication towers that are at least 500' AGL and open reporting of the results to cure this defect.

Then the FCC can better ascertain the total mortality at towers under its jurisdiction. NEPA requires such analyses. Instead, the FCC uses the failure to document mortality at the vast majority of towers as an excuse for inaction, despite the scientifically documented incidences and studies of widespread avian mortality at towers.

The FCC now has before it not only extensive information that communication towers kill millions of migratory birds each year (at least 4.3 million), but that these birds are disproportionately neotropical migratory birds, the vast majority of which are night migrants. The FCC also has before it substantial evidence that at least 65 species of the 130 bird species that the U.S. FWS lists as Birds of Conservation Concern are killed at towers. See the Longcore et al. Land Protection Partners Reports (2005), Longcore et al. Land Protection Partners Analysis (2007), and see Shire, G.G., K. Brown, and G. Winegrad. 2000. *Communication towers: a deadly hazard to birds*. American Bird Conservancy, Washington, D.C (2000).

It is not simply the total overall numbers of birds killed at towers that is important. The FCC continues to imply that total mortality of all birds is the key factor in determining significance and adverse impacts. While total mortality of all birds is alarming and warrants action by the FCC, a critical factor in avian mortality at towers is the disproportionate number of individual birds killed of individual species, particularly species that are of conservation concern.

As noted above and as has been thoroughly documented from the literature, 65 species that the U.S. FWS lists as Birds of Conservation Concern are killed at towers. The U.S. FWS Birds of Conservation Concern list was mandated by Congress to "identify species, subspecies, and populations of all migratory nongame birds that, without additional conservation action, are likely to become candidates for listing under the Endangered Species Act of 1973." Fish and Wildlife Conservation Act of 1980, as amended. 16 U.S.C. §§2912 (a)(3). Hence, the 2002 list compiled by the FWS consists of migratory birds that the FWS believes are likely to become candidates for listing under the ESA unless conservation measures are taken. These species are either in substantial decline or are otherwise threatened by small or restricted populations, or are dependent on restricted or vulnerable habitats. It is of critical conservation concern that management actions be taken to conserve these listed avian species including at towers, and clearly the take of at least one-half of these listed species at towers, particularly in the alarming and disproportionate numbers some are killed, warrants FCC action.

The Gehring and Kerlinger Reports on their Michigan research found at 42 species of birds at the 24 towers studied over five migration seasons (2003-2005), and that "Night-migrating songbirds collided most frequently with communication towers, accounting for about 92% of all carcasses found. (Appendix 1)." See Gehring, Joelle and Kerlinger, Paul, *Avian collisions at*

communication towers: I. The role of tower height and guy wires, Prepared for: State of Michigan (March 2007). This data confirms previous long-term studies that conclude that more than 90% of bird fatalities are of night migrating neotropical songbirds.

In the Gehring and Kerlinger Report cited above, Blackpoll Warblers were the most common species found dead at towers in the fall of 2005. This species is a U.S. FWS Bird of Conservation Concern and is the 7th most commonly killed bird at communication towers. See Longcore et al. comments filed on this NPRM. Red-eyed Vireos and Ovenbirds were the two most common species found, also confirming other studies.

This disproportionate concentration of fatalities on neotropical, migratory birds during migration is further documented in the literature review and research in Shire, G.G., K. Brown, and G. Winegrad. 2000. *Communication towers: a deadly hazard to birds*. American Bird Conservancy, Washington, D.C (2000). The Land Protection Partners comments and analysis submitted in 2005 and further refined as submitted on this NPRM explicitly documents this disproportionate impact to warbler species (family Parulidae) and to other neotropical, migratory birds.

The Land Protection Partners scientists updated per species mortality estimates submitted on this NPRM are similar to the low estimates derived in their previous 2005 Report submitted to the FCC commenting on the Avatar Report. These lower estimates in 2005 were based on an assumption of 4 million annual bird fatalities.

These data document that it is not simply the overall gross number of birds killed at towers that is significant, but the disproportionately high numbers of birds killed in certain families and species, particularly U.S. FWS Birds of Conservation Concern.

The U.S. FWS reply comments submitted by Dr. Albert Manville to the FCC on the Avatar Report and dated March 9, 2005 note that: "LPP clearly characterized the issue of 'biological significance' to avifauna, especially based on 2003 comments to the NOI provided by the Cellular Telecommunications & Internet Association (CTIA), as an issue founded not on science but rather on a statutory standard under the National Environmental Policy Act (NEPA). We concur with this analysis. The Avatar Report, however, did not outline the standards used by the FCC to determine significance (LPP p. 4). LPP indicated that the report prepared for the communications industry by Woodlot Alternatives produced an annual estimate for avian mortality for all birds, not for particular species or populations (LPP p. 5). **The Service concurs that this is a flawed approach.**

Impacts must be assessed on a species-specific or population-specific basis." Emphasis added.

In the Gulf Coast petition filed with the FCC on August 26, 2002, details of U.S. FWS regional biologists' written concerns on tower impacts to migratory birds in the Gulf Coast region are cited. U.S. FWS letters citing these concerns were attached to the petition. As examples, within the Gulf Coast region of Louisiana, the U.S. FWS has been particularly concerned with the impacts of tower proliferation on migratory birds. On August 14, 2001, the U.S. FWS wrote to Aquaterra Engineering, Inc. that a proposed tower in Terrebonne Parish could potentially impact migratory birds "[g]iven its proposed location near the coast." The FWS letter went on to say that the FWS "is concerned that the number and distribution of existing towers, those currently authorized for construction, as well as the projected increase of such towers could potentially impact neotropical migratory birds," and provided risk criteria. See Exhibit N to the Petition.

These identical concerns and risk criteria were again raised regarding proposed towers by the U.S. FWS on April 4, 2001 in Rapides Parish and Washington Parish, Louisiana, April 11, 2001 in Vermilion Parish, and again on April 18, 2001 in East Baton Rouge Parish. See Exhibit O in the Petition. In yet another example, on March 9, 2001 (Exhibit P), the U.S.FWS wrote to GeoTrans, Inc. regarding two separate proposed towers in Duval County, Florida. The FWS letter states: "The proposed tower does not conform with our interim guidelines for communications tower siting, construction, and operation. The tower exceeds our recommended maximum height of 199 feet, and is located in an area used by coastal migratory birds and resident shorebirds and subject to fog, mist, and low ceilings. The proposed tower is immediately adjacent to an existing cellular communications tower. Although our guidelines recommend siting new towers within existing 'antenna farms' (clusters of towers), we believe the proposed clustered siting is not appropriate due to their potential cumulative impact on coastal migratory birds....Based on the above analysis, we believe that construction of an additional communications tower at the proposed site may cause mortality of migratory birds. When added to the general decline of neotropical migrants due to habitat loss and other factors, we consider any such potential mortality significant. We therefore do not concur with your finding of no significant impact. In addition, mortality of migratory birds caused by a cell tower may be a violation of the Migratory Birds Treaty Act."

In each of these correspondences, U.S. FWS has made its concerns apparent that the adverse direct, indirect, and cumulative effects of communications towers on migratory birds is a significant problem affecting migratory birds only to be ignored as the FCC requires no actions on these concerns and such towers are categorically excluded from NEPA review.

These are but a few examples of the many letters expressing local concerns of the U.S. FWS over tower construction. We have advised the FCC in the Gulf Coast petition that in light of these repeated warnings, FCC's consistently unlawful use of categorical exclusions to authorize over 99% of communications towers in the Gulf Coast region is especially egregious.

And, we have noted repeatedly, including above in section III, under NEPA the trigger for an EIS and mitigation and avoidance is whether Federal action significantly affects the quality of the human environment. 42 U.S.C. §4332(2)(C). Under 40 C.F.R. §1508.3 "federal agencies must conduct an IS for any action that "will or may" have a significant effect." The FCC's own regulations governing its implementation of NEPA specify that they "shall apply to all Commission actions that may or will have a significant impact on the quality of the human environment." 47 C.F.R. § 1.1303. The killing of ~4.3 million birds, the vast majority of them neotropical night migrating birds protected under the MBTA, clearly constitutes a major federal action that will or may have a significant effect on the human environment. The cumulative impact of this killing over the years also triggers the full panoply of NEPA evaluations and protections.

And beyond the pure legal questions of what is a NEPA "significant effect" and whether 4.3 million annual avian fatalities at towers constitutes such a "significant effect", previous and new filings submitted to the FCC document that bid kills at towers that fall disproportionately on certain species are **biologically significant** for these species. This goes well beyond the NEPA standard of "significant effect"and rises to a substantial threat to a number of protected migratory avian species.

In their filings in this NPRM, Longcore et al. Land Protection Partners Analysis (2007) conclude that at least 4.3 million birds are killed annually, at FCC registered towers and that under their conservative estimates, "Mortality of greater than 0.5% of total population annually for 20 species of conservation concern should be considered a biologically significant impact, because it represents additional mortality for species already in decline." They end by noting that: "Such mortality is also likely to affect population trajectories because these species are already in decline. We therefore conclude the mortality of birds at towers is 'biologically significant'....We conclude that the magnitude of mortality of individual species of birds at communications towers constitutes a significant impact, both alone and as a cumulative impact in conjunction with other impacts, within the understanding of NEPA. In addition to the biological impact, this is a profound loss for the roughly 46 million Americans who watch and enjoy birds in their local environments. Declines of migratory birds, from backyard species to less common migrants to rare and endangered species, diminish the human environment, and this should be recognized within the NEPA process as well. We also note that birds that

collide with towers do not simply vanish into thin air, but can suffer devastating injuries and experience painful and potentially lingering deaths."

As detailed in Section III (C) 1) above, the Longcore et al. analysis is very conservative as they base avian mortality on a total number of towers of 102,706 registered in the FCC Antenna Structure Registration Data System. The authoritative *Fryer*'s *Site Guide* in 2002 listed 170,087 towers, including 1,677 towers at a height of 1,000' or higher. The FCC data base lists only, at most, 851 towers of 1,000' AGL or higher. The significantly higher number of towers that exist in the U.S. as compared to those registered in the FCC data base means that the conservatively estimated annual death toll for migratory birds is **much higher** than Longcore et al. estimate.

Further, certain migratory species, including many of the U.S. FWS designated Birds of Conservation Concern, experience tower related mortality far out of proportion to their population size and are disproportionately killed at towers when compared to other species. This is amply demonstrated in the Land Protection Partners reports previously filed with the FCC and in their comments filed on this NPRM. The migratory period is believed to be the most critical period contributing to long-term declines in some species. See Hutto, R.K. 2000. *On the importance of en route periods to the conservation of migratory landbirds*. Studies in Avian Biology 20:109––114.

In a study to examine migration mortality, Sillett and Holmes examined Black-throated Blue Warblers, which are documented as being killed at communications towers (~59,000 per year) and is a U.S. FWS listed Bird of Conservation Concern. The researchers concluded that more than 85% of total mortality of Black-throated Blue Warblers occurred during migration. The long-term results confirmed concerns about the migratory period as playing an important role in species declines. Sillett and Holmes concluded: "Consequently, migrant populations could be especially susceptible to processes that further reduce survival of individuals during migration, such as destruction of high-quality winter habitats and stopover sites, **and increases in the number of communications towers along migration routes** (emphasis added)." Sillett, T.S., and R.T. Holmes. 2002. *Variation in survivorship of a migratory songbird throughout its annual cycle*. Journal of Animal Ecology 71:296––308.

According to the Land Protection Partners reports previously filed with the FCC and in their comments filed on this NPRM, extra mortality, such as the estimated 59,000 individuals per year of Black-throated Blue Warbler killed at towers, during a period that is already stressful, likely contributes to recorded regional population declines or even overall population declines for this Bird of Conservation Concern.

The U.S. FWS reply comments submitted by Dr. Albert Manville to the FCC on the Avatar Report and dated March 9, 2005 fully support the data in the

Longcore et al. Land Protection Partners Analysis (2005). The U.S. FWS states that: "In Section 2.1 of the LPP Report, 'Estimate of numbers of birds killed at towers by species,' LPP took the list of the top 10 birds killed per year at communication towers, and estimated mortality for each species using the Service's low-end estimate of 4 million and high-end estimate of 40 million birds of all species killed per year. This novel approach, even at the 4-million bird level, results in some telling statistics. Looking only at the top 10 bird species for which mortality has been documented at communication towers, mortality is estimated to range from 490,000 to 4.9 million birds for each of the 10 bird species based on annual mortality estimates developed by FWS! The population impacts to migratory songbirds (and other avifauna) and impacts to their population status are frightening and biologically significant. LPP referenced the Sillett and Holmes (2002) long-term study on the migrant Black-throated Blue Warbler. The Sillett and Holmes study showed a survival rate during the migratory period of only 67-73%, compared to 99% (+ 1%) summer survival and 93% (+ 5%) winter survival, raising concerns about the increased number of communication towers and their impacts to this species during migration. For Federally-listed species, such as the Kirtland's Warbler, whose total estimated population numbers only 2,000 breeding individuals, tower mortality could be significant to the entire population. We therefore concur with LPP's recommendation to include all migratory birds as part of the FCC's NEPA analysis process (LPP p. 5). The Service first raised this concern at our 1999 public workshop on avian collisions at communication towers, held at Cornell University."

The Longcore et al. filing in this NPRM documents that migratory warbler species (Parulidae) comprise 13 of the top 20 species for total mortality and 14 of the top 20 for proportion of the species killed annually. But species from other groups show surprisingly high mortality as a proportion of population size. For example, Pied-billed Grebes are the fifth most affected species by percentage of population size with an estimated 3.68% of total population killed per year. This estimate reflects mortality of Pied-billed Grebes at towers in eight Bird Conservation Regions.

These scientists have documented how tower kill is "biologically significant" for many species of birds, many of which are FWS Birds of Conservation Concern. They compared mortality estimates with estimates of total population size and this data documents that mortality at towers could conceivably reach 4% to 5% of total population size per year of some species. Mortality of this magnitude is extraordinarily significant on a species basis and for individual populations.

Their data also documents 34 species for which annual tower kill is greater than 0.5% of population size. Of these 34 species, 20 are U.S. FWS Birds of

Conservation Concern. The 0.5% is an arbitrary cut-off and lower mortality rates may affect population trajectories of species that are already impacted by other factors, hence their Birds of Conservation Concern listing. Mortality of this magnitude certainly significantly affects the quality of the human environment under NEPA, and such high mortality likely affects population trajectories.

Annual fatalities at towers documented for various birds are estimated per species by Longcore et al. Land Protection Partners Analysis (2007), and these species include 65 U.S. FWS Birds of Conservation Concern. Here are some of the mortality data for Birds of Conservation Concern. Those marked with an "*" are species for which at least 0.5% of their total populations are killed annually at towers:
151,122 Bay-breasted Warblers*
97,091 Chestnut-sided Warblers*
87,397 Blackpoll Warblers
59,359 Black-throated Blue Warblers*
51,425 Black-throated Green Warblers*
46,631 Northern Waterthrushes
37,161 Yellow Warblers
36,527 Northern Parulas*
31,868 Yellow-throated Warblers*
27,786 Wood Thrushes
27,049 Marsh Wrens
19,315 Prairie Warblers*
18,995 Kentucky Warblers*
17,290 Dickcissels
17,269 Grasshopper Sparrows
16,769 Canada Warblers*
16,320 Yellow-billed Cuckoos
15,255 Cape May Warblers
13,545 Sedge Wrens
11,940 Worm-eating Warblers*
11,454 Prothonotary Warblers*
10,730 Connecticut Warblers* and
10,414 Yellow-bellied Sapsuckers
See the Charts in Table 3 of the Longcore et al. comments filed in this NPRM.

In Longcore et al. Land Protection Partners Analysis (2007), the authors demonstrate that some populations of these Birds of Conservation Concern have very high estimated annual mortality at towers: Yellow Rails are at 17.5%; Bermuda Petrels are at 5%; Bay-breasted Warblers are at 4.8%; Swainson's Warblers are at 4.0%; Black-throated Blue Warblers are at 3%; Yellow-throated Warblers are at 2%; and Worm-eating warblers are at 1.6%. These are particularly alarming mortality data and are conservative estimates that are likely

very much higher as the mortality estimates are based on the FCC's tower registration data base that has significantly less towers than exist.

The Bay-breasted Warbler (*Dendroica castanea*) is a U.S. FWS Bird of Conservation Concern and is a Audubon Watch List species, rated in the YELLOW category. This category includes those species that are declining but at a slower rate than those in the red category. These typically are species of national conservation concern. Each year, an estimated 151,122 Bay-breasted Warblers are killed at communication towers in the U.S. See the Longcore et al. filing in this NPRM. This is 5% of the Bay-Breasted Warblers total population.

A night migrating neotropical songbird, the Bay-breasted Warbler breeds across the vast boreal forests of Canada from the Northwest Territories to Newfoundland and the Maritimes and into northern New England. It migrates in fall to winter mostly from Costa Rica and Panama to northwestern South America. This means the this night migrating species makes two trips annually–north and south-- through a vast array of lit antenna structures under the jurisdiction of the FCC.

According to the Boreal Songbird Initiative "The Breeding Bird Survey indicates that its population is declining at nearly 7 percent per year, but the data are heavily skewed toward the eastern part of its range. This decline is likely a result of recent forestry practices on the breeding grounds that include spraying programs to control spruce budworm, planting of budworm-resistant trees, and shorter cutting cycles that eliminate the mature stands required for nesting. Problems occur on the migration routes and winter grounds as well. **Many migrating Bay-breasted Warblers are killed in collisions with towers and lighthouses**. Tropical deforestation is also a significant threat to this species, which prefers mature forest across most of its winter range."(Emphasis added). See, *Boreal Songbird Initiative* at: www.borealbirds.org/birdguide/BD0590_species.shtml and Sauer, J.R., J.L. Hines, and J. Falcon. 2003. *The North American Breeding Bird Survey, Results and Analysis* 1966-2002, Version 2003.1, USGS Patuxent Wildlife Research Center, Laurel, MD.

Breeding Bird Survey data from 1966 through 2001 showed a 2.7% annual decline in population; from 1980 through 2001, the increase was more substantial (6.6%). In New Brunswick, estimates at Fundy National Park show that 20,000 pairs bred there in 1979, but only 3,400 pairs bred there in 1992. See the National Audubon Society's watch List at: http://audubon2.org/webapp/watchlist/viewSpecies.jsp?id=17

The statement above that "many migrating Bay-breasted Warblers are killed in collisions with towers" is documented in the previous and current work that has been submitted to the FCC by Longcore et al. Land Protection

Partners Reports (2005) and Longcore et al. Land Protection Partners Analysis (2007). The charts provided by LPP to the FCC show that fatalities each year at towers account for a conservatively estimated 151,122 Bay-breasted Warblers, an annual loss of 5% of the total population of this migratory songbird. The 151,122 fatalities ranks sixth for all bird species killed at towers.

We believe that such mortality adversely affects this Bird of Conservation Concern, a protected migratory species under the MBTA, and that this mortality is biologically significant and clearly constitutes a significant effect on the environment. This mortality alone requires FCC action to: complete an EIS under NEPA; to revise its environmental assessment requirements to require review of avian mortality impacts for each tower; add avian impacts to the list of EA requirements under 47 C.F.R. 1.1307; adopt the prevention/avoidance measures in Section II above; and to act to prevent such fatalities as violations of the MBTA which prohibits any take of a migratory bird without a permit.

Similar cases could be made for 18 other U.S. FWS Birds of Conservation Concern for which towers take at least 0.5% of their populations annually.

The Cerulean Warbler (*Dendroica cerulea*) is an example of the significant and adverse impacts to a bird species from tower kills to a bird species that is experiencing severe declines, even though 2,351 of these birds are killed at towers annually. In the Longcore et al. Land Protection Partners Analysis (2007), annual mortality is estimated at 2,351. The Cerulean Warbler is one of 65 U.S. FWS Birds of Conservation Concern documented as being killed at antenna structures. The Cerulean Warbler also is Red-listed as Vulnerable to extinction by BirdLife International, the official Red List Authority for birds for the IUCN Red List. The Audubon Watch List accords the bird its highest concern–a RED listing. Species in this category are declining rapidly, have very small populations or limited ranges, and face major conservation threats. These typically are species of global conservation concern.

In the U.S. FWS comments on this NPRM, the FWS notes that "The birds most frequently killed include members of the warbler, thrush, and vireo families. In one case, 164 Cerulean Warblers — a FWS 'species of conservation concern' and a PIF Watch List 'extremely high priority' species – – were reported collected at 5 towers."

The Cerulean Warbler population has now dropped almost 82% throughout its U.S. range over the last 40 years, making it the fastest declining warbler in the country. See the data on the Cerulean Warbler in the October 31, 2000 ESA-listing petition, with a decline then estimated at 70%, at: http://www.southernenvironment.org/lawlibrary/forests/2000-10-31_cerulean_petition.pdf. And, see the U.S. FWS data at: www.fws.gov/Midwest/eco_serv/soc/birds/cerw/cerw12mnthfindnr.html.

Because of this severe population decline, 28 organizations filed a petition to list the Cerulean Warbler under the ESA with the U.S. FWS on October 31, 2000. The groups included the National Audubon Society, Defenders of Wildlife, Sierra Club, The Wilderness Society, Southern Appalachian Biodiversity Project, Cherokee Forest Voices, and the Southern Environmental Law Center. The FWS issued a preliminary finding in October 2002 that the petition had merit and launched a status review of the species.

When the FWS failed to act on the petition as required by the ESA, the groups sued the agency in February 2006 for repeatedly violating deadline requirements under the Act. In June, the FWS settled the case by promising to render a final decision by November 30, 2006. On December 6, 2006 the FWS denied the petition to list the bird but noted the serious population declines and declared the necessity of conservation measures to prevent its listing in the future and the pursuit of new initiatives to help the bird. These measures included: continued, long-term monitoring; assistance to the Cerulean Warbler Technical Group; development of partnerships in support of Service programs such as the Migratory Bird's Cerulean Warbler Focal Species Strategy; and increased support of international conservation efforts.
The U.S. FWS noted: "Although there is no precise estimate of the current abundance of the cerulean warbler, the Service used a 1995 population estimate of 560,000 warblers during its review of the species' status. Based on 40 years of data obtained through the Breeding Bird Survey which indicates the population is declining at about 3 percent each year, the estimated population in 2006 would be approximately 400,000. At this rate of decline, the Service estimates the cerulean warbler population would number in the tens of thousands 100 years from now." And, thus, the bird was not in danger of extinction so as to warrant a listing under the ESA. See the U.S. FWS Press Release of December 6, 2006 that documents this information and also the formal publication of Cerulean Warbler data from the FWS at:
www.fws.gov/Midwest/eco_serv/soc/birds/cerw/cerw12mnthfindnr.html.

Ornithologists and other scientists disagreed with the decision to not list the Cerulean Warbler. "The birding community is greatly concerned because the Cerulean has been declining throughout its range for such a long period of time," said Greg Butcher, Ph.D., Director of Bird Conservation and an ornithologist with National Audubon. He said the bird has declined an average of 6% per year over the last eight years, compared to an annual average of 4.3% from 1966 to 2004. See:
www.audubon.org/news/press_releases/Cerulean_Warbler_12_07_06.html.

Like many neotropical migratory birds, the Cerulean Warbler is a night migrant and undertakes a relatively long migration compared with many other birds, covering a distance of about 2,500 miles between the central latitudes of North America and northern latitudes of South America. The bird nests across eastern North America from the eastern Great Plains north to Minnesota, Ontario and Quebec, east to Massachusetts, and south to Louisiana. The core area of this

warbler's breeding range is the Appalachian Mountain region of eastern Tennessee, eastern Kentucky, southern and western West Virginia, southeastern Ohio, and southwestern Pennsylvania.

Unfortunately, the bird must navigate through thousands of lit communication towers twice each year on its migration south and then, back north. While habitat loss is considered the key threat to this species, communication tower mortality is another factor contributing to its decline. At 2,351 Cerulean Warblers killed at towers a year, this mortality amounts to 0.59% of its total estimated population of 400,000. Such mortality is biologically significant when considering the annual decline over time of 3% in this warbler's population noted by the U.S. FWS. Ornithologists' estimate that the rate of population decline has increased to a 6% decline annually, making any human-caused artificial mortality at towers a serious conservation concern for a bird in serious decline. A 6% annual decline in a bird's annual population is alarming and the various factors causing such a precipitous decline need to be addressed to prevent the bird's ESA listing and eventual extinction. See the ESA-listing petition at: www.southernenvironment.org/lawlibrary/forests/2000-10-31_cerulean_petition.pdf.

The magnitude of tower mortality on an annual basis can be quite high for other individual species that are particularly vulnerable to tower fatalities in migration, but are not listed as Birds of Conservation Concern: 386,426 Red-eyed Vireos; 337,341 Ovenbirds; 295,130 Common Yellowthroats; 216,458 Magnolia Warblers; 171,938 Tennessee Warblers; 120,295 American Redstarts; 119,438 Swainson's Thrushes (Olive-backed Thrush); 108,443 Black-and-white Warblers;, 100,224 Nashville Warblers; and 100,137 Gray Catbirds; 97,091.

Further, local populations of species may be adversely affected by impacts from tower kill while the species overall is stable. The data mentioned herein and submitted in detail in Longcore et al. Land Protection Partners Reports (2005) and Longcore et al. Land Protection Partners Analysis (2007) deals only with overall populations of bird species and does not estimate or document localized population effects because of the methodological difficulty of doing such geographical analysis.

All of the birds mentioned above that are killed at towers are protected under the MBTA and their take without a permit is unlawful. Clearly, these conservative annual mortality estimates trigger the full panoply of NEPA requirements and protections, as well as MBTA and ESA requirements as discussed above. There should be no dispute that the FCC antenna structure approval and registration process and program significantly affects the quality of the human environment under NEPA, 42 U.S.C. §4332(2)(C), and that an EIS is required for antenna structure approvals and registrations, individually or cumulatively, that "will or may" have a significant effect" on

the environment. NEPA, the MBTA, and ESA require FCC action to prevent, or at least minimize, this mortality.

Under current FCC rules and practice, tower construction projects that will have potentially significant adverse effects on non-endangered birds protected under the Migratory Bird Treaty Act, 16 U.S.C. § 703 et seq., are almost all wrongfully "categorically excluded" from environmental review by the FCC's NEPA rules. 47 C.F.R. §1.1306. The FCC has severely abused its discretion by exempting these tower approvals and registrations. In a rule promulgated in 1986, the FCC declared that all FCC actions, decisions, licenses, permits, and renewals are "categorically excluded" from NEPA review unless the action falls into a few narrowly defined categories set forth in the regulations. See 47 C.F.R. § 1.1307 et seq.

Obviously, the FCC antenna structure approval and registration program has significant effects on migratory birds protected under the MBTA and the categorical exclusion should be ended. The data submitted herein and in other submissions, including those from the FWS and Longcore et al. Land Protection Partners Reports (2005) and Longcore et al. Land Protection Partners Analysis (2007), document that FCC tower registration decisions have significant effects on the human environment both individually and cumulatively by killing migratory birds, including endangered species and more than 65 species of Birds of Conservation Concern listed by the FWS. The FCC needs to act to end this categorical exclusion and adopt the measures suggested by the U.S. FWS Guidelines of September 2000 as detailed and refined in Section II above to prevent, or at least, minimize avian mortality while in no way impeding the provision of telecommunication services.

In Paragraph 2 of the NPRM, the FCC inquires as to the requirements for an EA on impacts to birds from towers and asks "is the evidence of specific incidents of bird collisions with towers, such as extrapolations that estimate the total number of these collisions, sufficient to support a required assessment for some or all towers? Are there other factors the Commission should consider in determining the proper treatment of the effect on migratory birds under the Commission's environmental rules?"

We trust that we have responded to these inquiries through this document and again suggest that the measures detailed in Section II above be adopted by the FCC and that the FCC require tower owners/operators to assess avian mortality at towers that are more than 500' AGL if it they employ red steady burning lights (FAA L-810) and other guyed and similarly lit towers. We also have delineated requirements above for applicants to review avian mortality impacts for each tower and for adding such impacts to the list of EA requirements under 47 C.F.R. 1.1307.

Finally, in Paragraphs 4 and 5 of the NPRM, the FCC inquires as follows and we further respond in **bold caps** after each question:
"4. We also seek comment on what constitutes a significant effect on the human environment under NEPA in the context of effects on migratory birds. For example, does the death of some number of individual birds, without more, constitute a significant environmental impact? **SEE ABOVE DATA IN THIS SECTION AND THE DATA AND LEGAL PRESENTATION IN SECTION III ABOVE.** Must the overall population of birds as a whole or of particular species be negatively impacted before any obligation under NEPA is triggered? **OF COURSE NOT. SEE ABOVE DATA IN THIS SECTION AND THE DATA AND LEGAL PRESENTATION IN SECTION III ABOVE.** And if so, what size of population, either in migratory birds as a whole or in a particular species, is sufficient to trigger any legal obligation by the Commission? **SEE ABOVE DATA IN THIS SECTION AND THE DATA AND LEGAL PRESENTATION IN SECTION III ABOVE.** Can the Commission rely upon anecdotal evidence of bird kills at individual towers or must it have broader studies before taking action specifically for the protection of migratory birds? **EXISTING DATA IS NOT JUST ANECDOTAL AND IS MORE THAN SUFFICIENT TO REQUIRE THAT THE FCC TAKE ACTION. SEE DATA ABOVE IN THIS SECTION AND THE DATA AND LEGAL PRESENTATION IN SECTION III ABOVE.** Must the Commission consider whether collisions with communications towers interrupt avian movement, and thereby result in declines in species beyond the direct losses due to collisions? **IT SHOULD. SEE, E.G. LARKIN, R.P. AND B.A. FRASE. 1988. *CIRCULAR PATHS OF BIRDS FLYING NEAR A BROADCASTING TOWER IN CLOUD*. JOURNAL OF COMPARATIVE PSYCHOLOGY 102:90–93.**

Also, what is the relevance, if any, of other causes of avian mortality, such as buildings, transmission lines, and vehicles? **THESE OTHER FACTORS ARE NOT RELEVANT TO THE DUTIES OF THE FCC REGARDING AVIAN MORTALITY AT TOWERS. SEE ABOVE DISCUSSION IN THIS SECTION AND IN SECTION III, AND NOTE THE NPRM COMMENTS FROM LONGCORE ET AL. "A COMPARISON OF THE CONTRIBUTION OF DIFFERENT MORTALITY SOURCES TO OVERALL BIRD MORTALITY IS NEITHER USEFUL NOR RELEVANT. SUCH COMPARISONS DO NOT PROVIDE ANY INFORMATION NECESSARY TO DETERMINE WHETHER MORTALITY IS BIOLOGICALLY SIGNIFICANT (I.E., NEGATIVELY AFFECT POPULATION TRAJECTORY OF POPULATIONS OF CONCERN)." THIS INQUIRY INTO OTHER SOURCES OF AVIAN MORTALITY IS WITHOUT MERIT AND IS AN INDUSTRY RED HERRING. THE KILLING OF MIGRATORY BIRDS AT TOWERS IS UNDER THE JURISDICTION OF THE FCC AND THIS KILLING REQUIRES THE FCC TO ACT UNDER NEPA, THE MBTA, AND UNDER THE ESA. THAT BIRDS ARE ALSO KILLED BY OTHER MEANS IS NOT RELEVANT TO THIS INQUIRY OR TO THE OBLIGATIONS OF THE FCC TO ACT UNDER NEPA, MBTA, AND THE ESA.** THE SCIENTISTS-AUTHORS OF THE LAND PROTECTION PARTNERS ANALYSIS THAT WAS SUBMITTED WITH OUR NOI/AVATAR COMMENTS OF FEBRUARY 14, 2005, CONCLUDE THAT "EXPRESSING TOWER KILL MORTALITY

AS A PERCENTAGE OF TOTAL HUMAN-INDUCED MORTALITY THEREFORE DOES NOT MAKE SENSE." How do the answers to these questions affect the Commission's authority, or obligation, to take action in this matter? **THIS IS EXPLAINED THROUGHOUT THIS DOCUMENT.**

5. The FCC seeks comment on whether the evidence concerning the impact of communications towers on migratory bird mortality justifies and/or authorizes Commission action under the Gulf Coast Petition filed by Forest Conservation Council, American Bird Conservancy and Friends of the Earth." **OF COURSE THE EVIDENCE DICTATES THAT THE FCC ACT. SEE THE PETITION AND SEE THE DATA ABOVE IN THIS SECTION AND THE DATA AND LEGAL PRESENTATION IN SECTION III ABOVE. WE ARE APPROACHING FIVE YEARS SINCE THE PETITION WAS FILED AND THE COMMISSION HAS DONE NOTHING TO BETTER PROTECT BIRDS FROM TOWERS SINCE ITS FILING. NOW, THE FCC SEEKS PUBLIC COMMENT ON THE PETITION AFTER CONDUCTING A NOTICE OF INQUIRY BEGINNING IN AUGUST OF 2003 AND RECEIVING DETAILED INFORMATION ON BIRD MORTALITY AT TOWERS, AND WHAT CAN BE DONE TO PREVENT IT.**

We firmly believe that the research and data clearly establish that both the killing of at least 4.3 million primarily night migrating neotropical birds each year and the magnitude of mortality of individual species of birds at communications towers significantly affects the quality of the human environment under NEPA, both alone and as a cumulative impact year after year, and in conjunction with other impacts. We also firmly believe that annual losses in populations of 20 species of U.S. FWS Birds of Conservation concern in the 0.5%-5% range are biologically significant and are adversely affecting populations of these species . Clearly, the FCC is required to act under NEPA and under the MBTA and the ESA.

V. THE CAUSES OF AVIAN MORTALITY AT TOWERS AND THE SOLUTIONS THAT SHOULD BE ADOPTED BY THE FCC.

A) BACKGROUND: MEASURES TO PROTECT BIRDS WHILE NOT IMPEDING THE PROVISION AND BUILD-OUT OF TELECOMMUNICATION SERVICES.

The FCC NPRM posits detailed questions on what actions it might take if there is probative evidence of a sufficient environmental effect to warrant Commission action and whether scientific or technical evidence supports the adoption of requirements for communication towers regarding lighting, guy wires, tower height, the location of the tower, and the possibility of collocation. See NPRM, paragraphs
6 through 24.

The FCC NPRM also seeks comments on the adoption of an NEPA EA requirement for effects on migratory birds and on the types of towers to which such a requirement should apply. One possible approach might be to

require an EA addressing this factor for all new tower construction or only for proposed towers that exhibit certain characteristics that render them more likely to harm migratory birds–towers that use certain lighting systems, or that require guy wires, or that exceed a specified height. See NPRM paragraphs 63 and 64.

Finally, in NPRM paragraph 65, the FCC seeks comment on whether there are other possible substantive or procedural measures the Commission could take to minimize migratory bird collisions that are not discussed above.

In this section, we will answers the inquiries of the FCC in this NPRM related to preventing avian mortality at communication towers under its jurisdiction and how this should be done under the antenna structure review, approval, and registration process. In this section, which augments the comments in the sections above, we will further advise the FCC how it can and should comply with NEPA through its antenna structure review, approval, and registration process and also, how it can and should comply with the MBTA and ESA. The scientific and technical evidence supporting these changes will be detailed.

Preliminarily, we must emphasize two critical points to the Commission:
First, the FCC must adopt measures not just for new tower applications coming before it, but also for lighting changes to prevent avian mortality at **existing** towers; and
Second, that all the measures and process changes suggested to bring the FCC into compliance with NEPA, MBTA, and ESA that will lead to the prevention of the killing of millions of birds at towers will not in any way adversely affect the provision and build-out of telecommunication services in this country and will have no adverse effects on the deployment of wireless services, on homeland security, and on public safety.

As to the first item above, we document later in this section the importance of lighting in attracting birds to towers at night and causing the vast majority of avian fatalities at towers. With the scientific evidence clearly demonstrating the linkage of red steady burning lights to avian fatalities, it is extremely important that the FCC act to prevent the use of such lighting for night time conspicuity on new towers, but to also require that existing towers that employ such lighting be modified.

As to item number two above, the FCC in its NPRM has requested comments on the effect of any new EA requirements and mitigation measures to prevent avian mortality on the deployment of wireless services, on homeland security, and on public safety and on the Commission's ability to administer any particular proposal if adopted. We note that all our proposals are required by

NEPA, MBTA, and ESA and are suggested with a view to protecting avian species while not in any way impeding the provision and build-out of telecommunication services in this country and not adversely affecting the deployment of wireless services, homeland security, public safety, or small businesses.

While we elaborate on this below, as one example of measures to prevent avian mortality that will not adversely affect the provision and build-out of telecommunication services is the use of alternatives to red steady burning lights at night (L-810). Many towers already employ white strobes exclusively at night and others use red strobes or red blinking lights exclusively at night. The use of lighting systems other than red steady burning lights at night will in no way impede the provision and build-out of telecommunication services in this country and will not adversely affect the deployment of wireless services, homeland security, public safety, or small businesses.

Another example, is requiring the collocation of antenna to be pursued in lieu of new tower construction also will in no way impede the provision and build-out of telecommunication services in this country and will not adversely affect the deployment of wireless services, homeland security, public safety, or small businesses. In fact, the nation's largest tower construction companies are already pursuing collocation, as are wireless providers. Collocation saves money.

Keeping towers, especially those under 500', as monopoles (where possible) to avoid guy wires is yet another example of a measure that will prevent many avian fatalities at towers that will in no way impede the provision and build-out of telecommunication services in this country and will not adversely affect the deployment of wireless services, homeland security, public safety, or small businesses. Of course, keeping towers as monopoles when under 500' can add to the cost of erecting such structures, but we support provisions wherein the applicant could submit certification by a qualified engineer that the structure cannot practicably be built as a monopole and that practicability be determined based on safety concerns, significantly higher costs, or due to other engineering factors that require the use of guy wires.

As we now turn to documentation of the measures that can be employed to prevent avian mortality at towers, or at least minimize such mortality, we must note that these measures have been repeatedly suggested to the FCC before. On September 14, 2000, the U.S. Fish and Wildlife Service issued its Guidance Document on the Siting, Construction, Operation and Decommissioning of Communications Towers. A copy of that document was provided the FCC in September 2000 and has been repeatedly discussed with

the FCC since September 2000. The Towers and Birds NOI mentions these Guidelines. In issuing the Guidelines, the U.S. FWS Director repeated concerns that the "The construction of new towers creates a potentially significant impact on migratory birds, especially some 350 species of night-migrating birds. Communication towers are estimated to kill 4-5 million birds per year, which violates the spirit and intent of the Migratory Bird Treaty Act and CAR Part 50 designed to implement the MBTA. Some of the species are also protected under the Endangered Species Act and Bald and Golden Eagle Act."

The U.S. FWS Director noted that "These guidelines were developed by Service personnel from research conducted in several eastern, Midwestern, and southern states, and have been refined through Regional review. They are based on the best information available at this time, and are the most prudent and effective measures for avoiding bird strikes at towers. We believe that they will provide significant protection for migratory birds pending completion of the Working Group's recommendations. As new information becomes available, the guidelines will be updated accordingly."

On November 20, 2000, the U.S. FWS Director wrote to the FCC Chairman, attaching the Guidelines and urging the Chairman to "....make the interim guidelines available to all applicants requesting Federal communication licenses, in order to distribute the information more widely among the....industries." The Director noted that the Guidelines represent "the best measures available for avoiding fatal bird collisions" and "While there is a considerable body of research available on bird strikes at towers and the measures which can be taken to avoid them, this knowledge is not widely known outside the academic community....We believe that widespread use of these guidelines will significantly reduce the loss of migratory birds at towers."

The U.S. FWS reply comments submitted by Dr. Albert Manville to the FCC on the Avatar Report and dated March 9, 2005 fully support the data in the Longcore et al. Land Protection Partners Analysis (2005) supporting the FWS Guidelines and documenting the key roles of lighting and guy wires in tower mortality. The FWS comments recommend that: " The FCC should endorse the Service's voluntary tower guidelines issued in 2000, strongly encouraging the industry to collocate antennas on existing structures while constructing shorter towers. These actions should not compromise communication needs."

In the FCC NOI at page 14, the FCC notes that it is not expert in migratory birds, rather the FWS is the lead Federal agency for managing and conserving migratory birds. The FCC further acknowledges that the FWS undertakes a number of bird surveys with the Regional FWS offices. In 2000,

the Director of the FWS, the Federal agency with this expertise in birds cited by the FCC, clearly states that the FCC should follow the FWS Tower Guidelines to prevent avian mortality at towers and the FWS reiterates the efficacy of these Guidelines to the FCC in 2005. The FWS formally states to the FCC in March 2005 that: 'The population impacts to migratory songbirds (and other avifauna) and impacts to their population status are frightening and biologically significant", but the FCC refuses to acknowledge this and requests information again on this same question. Despite the FCC acknowledgment of expertise on migratory birds in the U.S. FWS, the FCC has still not acted to acknowledge the significance of bird kill at towers and has refused to adopt the measures recommended by the FWS in the FWS Tower Guidelines, or to adopt any other measures to prevent avian mortality at towers.

The analysis from the federal agency with the statutory duty to conserve migratory birds and with the agency expertise on birds should be enough to trigger FCC action. We suggest that the FWS confirmation of the significance of bird kills at towers, the measures that can be employed to prevent these kills, the data herein and in the previous filings we have made, and the data and documentation submitted by the scientists at Land Protection Partners in 2005 and on this NPRM is more than sufficient for the FCC to finally act to adopt the measures in the FWS Tower Guidelines and the measures further detailed in Section II above.

We and other conservation and scientific groups have submitted detailed comments to the FCC on these same measures to avoid avian mortality at towers on many occasions over the last eight years. We submitted formal detailed comments to the FCC on November 11, 2003, commenting on the FCC Notice of Inquiry (NOI) on Migratory Bird Collisions with Communication Towers and Birds.

On February 14, 2005 we again submitted formal detailed comments on the Avatar Environmental, LLC Report that again documented the measures necessary to prevent avian fatalities at towers. Our comments were accompanied by a detailed Report completed by scientists at Land Protection Partners fully documenting and supporting these measures. We then submitted reply comments to the FCC on this Avatar Report matter on March 9, 2005, supplemented with another detailed Report completed by scientists at Land Protection Partners. All of these filings documented avoidance and mitigation measures the FCC could take to resolve the bird kill problem. We are again providing copies of these documents to the FCC. The FCC has failed to adopt the measures suggested or any other measures to prevent avian fatalities.

We detail below with supporting documentation answers to the questions posited by the FCC in this NPRM regarding the adoption of measures to prevent avian mortality without in any way impeding the provision and build-out of telecommunication services in this country and without adversely affecting the deployment of wireless services, homeland security, public safety, or small businesses.

B) COLLOCATION AND STRUCTURE HEIGHT UNDER 200' AGL.

The NPRM inquires about adopting measures to require efforts to collocate new antennas, rather than building new antenna structures. Also, questions are posited regarding tower height.

We suggest that the FCC adopt a requirement in its antenna structure approval and registration program that states:

1) An applicant for an antenna structure shall submit a written declaration to demonstrate why there is no viable opportunity for co-location of an antenna and that they cannot practicably keep a tower structure under 200', thus avoiding lighting requirements in order to better protect migratory birds. The declaration shall contain documentation that other structures have been examined in a five mile radius of the proposed antenna structure and that these could not practicably be used for the new antenna and why they could not be used. The applicant for an antenna structure also shall submit a written declaration to document why a proposed new antenna structure could not be kept to a maximum height of less than 200' AGL to avoid lighting requirements.

2) An applicant for an antenna structure shall design all new towers structurally and electrically to accommodate the applicant's antenna(s) and comparable antennas for at least two additional users for a minimum of three users for each tower structure, unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.

The September 14, 2000 U.S. Fish and Wildlife Service Guidance Document on the Siting, Construction, Operation and Decommissioning of Communications Towers recommend as the first two measures to be employed to prevent avian fatalities:

1. Any company/applicant/licensee proposing to construct a new communications tower should be strongly encouraged to collocate the communications equipment on an existing communication tower or other structure (*e.g.,* billboard, water tower, or building mount). Depending on tower load factors, from 6 to 10 providers may collocate on an existing tower.

2. If collocation is not feasible and a new tower or towers are to be constructed, communications service providers should be strongly encouraged to construct towers no more than 199 feet above ground level (AGL), using

construction techniques which do not require guy wires (*e.g.,* use a lattice structure, monopole, etc.). Such towers should be unlighted if Federal Aviation Administration regulations permit.
The FWS Guidelines also provide that:
9. In order to reduce the number of towers needed in the future, providers should be encouraged to design new towers structurally and electrically to accommodate the applicant/licensee's antennas and comparable antennas for at least two additional users (minimum of three users for each tower structure), unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.

Requiring the collocation of antenna to be pursued in lieu of new tower construction will save money and in no way impede the provision and build-out of telecommunication services in this country. In response to shareholders' concerns for profit, some of the nation's largest tower construction companies are already pursuing collocation, as are the wireless providers.

The U.S. FWS reply comments submitted by Dr. Albert Manville to the FCC on the Avatar Report and dated March 9, 2005 support the research data in the Longcore et al. Land Protection Partners Analysis (2005). The FWS states that "In Section 3, 'Tower height affects bird mortality rate,' LPP analyzed the relationship between tower height and the number of avian fatalities. In Section 3.1, they then investigated the relationship between tower height (including lit and unlit towers) and bird deaths, resulting in a regression analysis of significance. As a result of their analysis, LPP concluded that towers lower than 200 feet, with no FAA obstruction lighting, provided a 90-95% reduction in bird mortality. This recommendation, coincidently, parallels the Service's second voluntary recommendation made in 2000, for siting and constructing towers. That is, if communication antennas cannot be collocated on other structures, keep them unguyed, unlit, and under 200 feet."

In the updated Longcore et al. Land Protection Partners Analysis (2007) filed in this NPRM, the scientists/authors note that they extended and refined their investigation of the importance of tower height on avian mortality and conducted a new meta-analysis of communications towers that shows that bird mortality is positively correlated with tower height. Their study uses annual mortality estimates from 28 studies that met certain scientific criteria. They conclude that the taller a tower, the more likely it is to kill migratory birds. They state that: "The existing data would support the FCC adopting these recommendations as standards to better protect birds. Such standards for tower construction do not mean that towers exceeding 199 feet or any other height should not be

constructed, only that the FCC would strongly encourage collocation and the construction of shorter towers to accomplish telecommunication goals while minimizing avian impacts." Their work on tower lighting and height has been submitted for publication as Longcore, T., C. Rich, and S.A. Gauthreaux Jr. In review. *Design and siting of communication towers and rate of avian mortality: a review and meta-analysis.*

As the authors/scientists note in the NPRM comments: "The lighting scheme of communications towers is probably the most important factor contributing to bird kills at towers that can be controlled by humans....The results of our analysis are therefore consistent with the Gehring study and with surveys of bird kills after taller towers have been replaced with shorter towers. Crawford and Engstrom report decreased mortality following the reduction of a 1,008-foot tower to 284 feet. Furthermore, in instances where a taller tower has been erected next to a shorter tower, more birds are killed at the shorter tower than before, presumably because of the attracting effect of lights on the taller tower. Finally, the statistically significant relationship between tower height and bird mortality is consistent with studies of the vertical distribution of nocturnal migrants measured with radar. Most migrants fly at ~1,500 feet, with a small proportion (2–15% in one study) below 300 feet during clear weather. Greater proportions of total migrants (26–46%, depending on the season and location) are found in the strata up to ~1,300 feet, although the strength of radar used in that study may underestimate the number of birds at higher altitude." See their references cited in their NPRM comments.

Therefore, we submit that based on the above, the FCC should adopt the requirements mentioned above to assure efforts to collocate new antennas, rather than build new antenna structures that may kill migratory birds, and to require efforts to keep new antenna structures at less than 200' AGL to avoid lighting requirements. We concur with the scientists/authors of the Longcore et al. Comments on this NPRM that this does not mean all new antenna must be kept under 200' AGL, or that all new antenna must be collocated. What we suggest is that the FCC adopt the new requirements that strongly encourage collocation and the construction of shorter towers to accomplish telecommunication goals while minimizing avian impacts. This can be achieved by requiring applicants to submit documentation as mentioned above. Tower applicants should also be required to design new towers structurally and electrically to accommodate the applicant antennas and comparable antennas for at least two additional users for a minimum of three users for each tower structure, unless this design would require the addition of lights or guy wires to an otherwise unlighted and/or unguyed tower.

Further, when new antenna structures are built under 200', they should be unlit and unguyed. These latter requirements are further discussed below.

C) LIGHTING REQUIREMENTS.

In this NPRM, the FCC has tentatively concluded "that under the Commission's Part 17 rules, consistent with the FAA's memorandum, the use of medium intensity white strobe lights for nighttime conspicuity is to be considered the preferred lighting system over red obstruction lighting systems to the maximum extent possible without compromising aircraft navigation safety. We base this tentative conclusion on the FAA's recommendation of such lighting where it will not compromise aircraft navigation safety, the evidence suggesting that white strobe lights may create less of a hazard to migratory birds, and the absence of record evidence that use of white strobe lighting would have an adverse impact on communications facilities deployment. We seek comment on this tentative conclusion, including whether its implementation would result in reducing the incidence of migratory bird mortality associated with communications towers as well as any burdens such a requirement would impose on tower owners, or on the public, and whether alternatives may be available or preferable. Should each new or altered registered antenna structure be required to use medium intensity white strobe lights for nighttime conspicuity if the FAA determines that the use of such lights would not impair the safety of air navigation and recommends their use?"

Preliminarily, it is important to discuss the various lights and lighting systems currently in use. The only reason obstruction lights are placed on structures is to provide for pilot warnings to prevent collisions with planes. Under FAA Advisory Circular (AC) 70/7460-1, Obstruction Marking and Lighting, pilot warning obstruction lights are recommended for any human-made obstruction that exceeds 200' AGL (above ground level) or that is within 3 nautical miles of an airport.

The nomenclature for various lights under FAA Advisory Circular (AC) 70/7460-1 is detailed and is as follows: L-810 lights are steady burning red lights; L-864 lights are flashing red incandescent lights and these lights can be incandescent, LED's, or strobes, and can flash at rates of from 20 to 40 flashes per minute; L-865 lights are medium intensity white flashing lights that flash at a rate of 40 flashes per minute as a strobe light. All of these lights are recommended for use on towers in the FCC Advisory Circular, and these recommendations include the use of both L-810 lights alternating on a tower structure with L-864 lights. This system has been commonly deployed on many of the tallest tower structures.

As is amply demonstrated below, it is the L-810 steady burning red lights that attract birds to towers and lead to the majority of avian fatalities. We note that the wind energy industry worked with the FAA and succeeded in commissioning a study of wind turbine lighting to prevent avian fatalities.

The study was conducted by the FAA. The study results documented that the use of L-864 red strobe-like lights on the nacelle of a wind turbine (with no other lighting) provided full night time conspicuity for pilot warning. The study also demonstrated that not all turbines in a project need be lit. For example, the Mountaineer wind energy project in West Virginia has L-864 strobe-like lighting on 12 of 44 turbines. The L-864 red strobe-like lighting is on the nacelle, meaning there are no lights on the turbine blade when it is extended over the nacelle. Wind turbines at apogee can exceed 400'.

Despite the location of these turbines on the Appalachian ridges, avian fatalities have averaged less than 4.8 birds per turbine, and the recent study cited below, documents that because of the widespread use of these L-864 red strobe like lights, fatalities at 17 wind turbine projects indicated no more fatalities at lit vs. unlit turbines and that these lights, unlike red steady burning L-810 lights did not attract large numbers of birds.

Whenever white strobes are mentioned in this document, this refers to L-865 lights under FAA Advisory Circular (AC) 70/7460-1. When red steady burning lights are mentioned, this refers to L-810 lights under the FAA Advisory Circular. When red strobe lights are mentioned, this refers to L-864 lights in a strobe flash, and red blinking incandescent lights refers to L-864 in a slower blinking fashion.

Next, we note that the FCC and industry have asserted from time to time that it is the FAA, not the FCC, that has authority on the tower lighting requirements, and that the regulatory authority rests with the FAA not the FCC. However, it is the FCC and not the FAA that imposes requirements for lighting these towers. Under 47 U.S. C. § 303(q) of the Communications Act, the FCC is empowered to "require the painting and/or illumination of radio towers if and when . . . such towers constitute . . . a menace to air navigation." While the FAA makes lighting recommendations for aviation safety under FAA Advisory Circular (AC) 70/7460-1, Obstruction Marking and Lighting, it is the FCC that is authorized under statute and that in practice imposes the requirements for these lights. That is because the FCC has the statutory control over matters involving licensing of applicants, and the erection, approval, and registration of towers. 47 C.F.R. § 17.21; 17.23.

While the FAA has advisory standards for lighting tall structures for aviation safety, the law is clear that it is the FCC that has the statutory responsibility for communication tower approval, registration, and licensing of applicants and for any lighting requirements. 47 U.S. C. § 303(q) of the Communications Act and 47 C.F.R. § 17.21; 17.23. Under FCC procedures, an applicant for a new antenna structure must demonstrate to the FCC that

they are using certain aviation safety lighting on all structures exceeding 200' AGL.

In addition to the general licensing requirements for wireless and broadcast operators, FCC regulations also require any party seeking to construct or modify a communication towers that stands over 200' in height to "register" the tower with the FCC before an applicant can obtain a construction permit or operation authorization under the normal FCC licensing process. 47 C.F.R. §§ 17.4; 17.5. These same regulations also require that the owners of all existing towers in excess of 200' in height register such towers with the FCC, and certify that each tower displays appropriate lighting and complies with other technical standards. 47 C.F.R. §§ 17.4; 17.5. As part of the mandatory registration process, the FCC requires that towers exceeding 200' display warning lights to meet aviation safety standards. 47 C.F.R. § 17.21; 17.23. While the FCC defers to the FAA Advisory Circular (AC) 70/7460-1, Obstruction Marking and Lighting, this Advisory Circular has a menu of choices for aviation obstruction lighting and the FCC can direct applicants and existing tower owners/operators to employ white (L-865) or red (L-864) strobe lighting and to avoid red steady burning lights (L-810) to protect birds while also providing full night time conspicuity for aviation safety.

The lighting employed on communication towers is of critical importance in causing avian fatalities. As noted by Longcore et al. in the LPP comments on this NPRM "The lighting scheme of communications towers is probably the most important factor contributing to bird kills at towers that can be controlled by humans." The best science available indicates that particularly in poor visibility weather conditions at night, lights on towers (especially red steady burning L-810s) disrupt a neotropical migratory bird's celestial navigation system and perhaps its magnetic navigation system. This resulting disorientation causes the birds to fly to the light source and circle the light source at the tower, causing the bird to be unable to establish its directional cues, and greatly increase its probability of striking the tower and guy wires, flying into other birds also circling, or losing most navigational capability and flying into the ground or ancillary structures. Documentation of this is found in many scientific documents, for example:

In a study that was conducted in South Carolina during fall migration, Gauthreaux and Belser monitored bird flights on 14 nights at two towers, one tower (1,667') with incandescent flashing red and solid red lights (L-810) and one tower (2,016') with white strobe lights, and a nearby control site. General linear models revealed that the number of flights was influenced by the day of observation and tower type. Significantly more birds were observed at the tower with the combination of red lights than at the tower with white strobe lights or the control site. Furthermore, lighting type was significantly associated with number of nonlinear flight paths, with twice as many

nonlinear flight paths at the tower with red lights than at the tower with white strobe lights on average, and nearly 14 times more nonlinear flight paths at the red lighted tower than at the control site.

The results suggest that although white strobe lights cause birds to take more nonlinear flight paths, they do not result in birds accumulating around the tower. Gauthreaux and Belser concluded that the significantly greater number of paths per 20 minutes around the tower with red lights resulted from the attraction of the lights, added to the influence of the lights on orientation, leading to accumulations of individuals near the towers with solid red and flashing red lights. Gauthreaux, S.A., Jr., and C. Belser. 2006. *Effects of artificial night lighting on migrating birds*. In C. Rich and T. Longcore (eds.), Ecological Consequences of Artificial Night Lighting. Island Press, Covelo, California.

Dr. W. Taylor, Professor Emeritus of Biology at Central Florida University, reports drastic reduction of bird mortality when lighting of a tower in Orlando, Florida was changed from solid red and flashing red lights to white strobe lights (personal communication with Dr. Travis Longcore). The tower was the site of large bird kills, and Professor Taylor and colleagues had collected more than 10,000 birds over the years and reported these kills in the literature. In 1974, the ~1,000-foot guyed tower blew down, and was replaced with a taller guyed tower with white strobe lights. Following the replacement, bird mortality was reduced drastically and no mass kills (i.e., >100 birds) were ever again reported at the site. Taylor, W.K., and B.H. Anderson. 1973. *Nocturnal migrants killed at a south central Florida TV tower, autumn 1969-1971.* Wilson Bulletin 85:42-51. Taylor, W.K., and B.H. Anderson. 1974. *Nocturnal migrants killed at a south central Florida TV tower, autumn 1972*. Florida Field Naturalist 2:40-43.

Why be concerned about light pollution?, Broderick, B., Royal Astronomical Society of Canada Bulletin (June 1995). Over a period of 10 years, nearly 23,000 birds were killed by flying into floodlight lit smokestacks at a power plant near Kingston, Canada. The problem was resolved by replacing the floodlights with a white strobe light. Other research shows that on nights with poor visibility when birds are attracted to lit towers and encircling a tower, turning off the lights results in an almost immediate response by the birds. They stop circling and leave the tower and resume their migration.

Attraction of nocturnal migrants by lights on a television tower, Cochran, William W. and Richard R. Graber, Wilson Bulletin, 70:378-380, (1958). Cochran and Graber made visual and acoustic observations of birds circling a 984-ft TV tower near Champaign, Illinois during a night with overcast and light mist. They counted call notes from migrants and made observations of the number of birds flying in the vicinity of the tower with a spotlight. Cochran was the engineer at the TV station and was able to control the lighting of the tower. By turning off the lights for short periods of time, he and Graber were able to confirm what many had suspected - that lights were causing the birds to concentrate around the tower. Within a short period of turning off the tower lights, the swarm of birds hanging around the tower dispersed.

Another published article similarly concludes that strobe lights with a complete break between flashes would reduce bird mortality at tall structures. Jones, J., and C.M. Francis. 2003. *The effects of light characteristics on avian mortality at lighthouses*. Journal of Avian Biology 34:328–333.

Dr. Will Post, Curator of Ornithology at the Charleston, SC Museum reports that during a low cloud ceiling, rainy two nights, 329 dead neotropical migratory birds were collected at a Mt. Pleasant, South Carolina TV tower in September 2003. Two other coastal TV towers, at Awendaw, about 10 miles NE of the Mt. Pleasant towers, also had significant kills during the early 1980s. In about 1990, these two coastal towers switched from red incandescent steady burning lights (L-810), alternating with red blinking lights (L-864), to white strobe lights (L-865). Will Post and others have found few dead birds around them since. This verifies what other researchers have found: strobe lights cause significantly less mortality than red steady burning lights.

This scientific evidence is strong correlating lighting with avian fatalities. See the detailed discussion and review of the scientific literature in the Longcore et al. LPP filing in this NPRM. The most critical factor in this lighting is whether the lights burn steadily at night or are pulsed, that is whether the lights flash, strobe, or blink periodically. Such pauses in a light source greatly diminish a bird's attraction to the light source and hence, the fatalities. As noted in the Longcore et al. LPP filing in this NPRM, "Verheijen, who wrote the classic review on the attraction of animals to light, concludes that, 'Success has been achieved in the protection of nocturnal migrant birds through interrupting the trapping stimulus situation by… replacing the stationary warning lights on tall obstacles by lights of strobe or flashing type.'" Citing Verheijen, F.J. 1958. *The mechanisms of the trapping effect of artificial light sources upon animals*. Archives Néerlandaises de

Zoologie 13:1–107 and Verheijen, F.J. 1985. *Photopollution: artificial light optic spatial control systems fail to cope with. Incidents, causations, remedies*. Experimental Biology 44:1–18.

Some birds also fly directly into the tower structure and guy wires, even in daytime but all mass mortalities have been recorded at night, almost always during low cloud ceiling/poor visibility.
There is much more in the scientific literature on the causes of tower kills, e.g. see the proceedings of the Avian Mortality at Communication Towers Workshop at: http://www.towerkill.com/workshop/proceedings/index.html

The FCC NPRM cites the Michigan research by Dr. Joelle Gehring and premises several inquiries based on previous research publications on this research. Since the NPRM was published, Dr. Gehring and Dr. Kerlinger have combined and finalized their research into two parts, one on tower lighting and the other on height and guy wires. The research was conducted during five migratory seasons (spring and fall) from September 2003 to September 2005. Twenty-four towers were studied in all, 21 Michigan State Police communication towers that were 380'-480' AGL, and three private towers that exceeded 1,000'.

The researchers examined the impact tower lighting had on bird mortality and compared towers with steady burning red L-810 lights and flashing L-864 lights, with towers using only L-865 white strobes, and towers with the steady burning red L-810 lights extinguished and operating only with flashing L-864 lights. The Michigan research (Report II) authors note that "Our results demonstrate that avian fatalities can be reduced dramatically at guyed communication towers, perhaps by 50-70%, by removing steady burning L-810 lights....Kerlinger et al. (in press) qualitatively compared fatality rates of night migrants at wind turbines lit only with red flashing strobe-like lights (L-864) with fatality rates at turbines that were not lit. They found no difference and suggested that red strobe-like lights did not appear to attract or disorient night migrants, resulting in collisions with wind turbines ranging in height from just over 60 m to nearly 122 m in height. These data support our results and interpretation that flashing beacons did not attract or disorient as many birds as non-flashing lights. Kerlinger, P., J. Gehring, W.P. Erickson, and R. Curry. In Press. *Federal Aviation Administration obstruction lighting and night migrant fatalities at wind turbines in North America: A review of data from existing studies*...Our study is the first to compare collision rates at communication towers equipped with different types of FAA obstruction lighting. The results also provide the first scientifically validated and economically feasible means of reducing fatalities of night migrating birds at communication towers....By simply removing the L-810 lights from communication towers, it is possible

that more than one to two plus million bird collisions with communication towers might be averted each year....The elimination of steady burning, red L-810 lights, leaving only flashing L-864 lights would also be beneficial for tower owners. Although fatalities would not be completely eliminated, the numbers of fatalities would undoubtedly be reduced greatly. The economic incentive for removing L-810 lights is substantial. Electric consumption, and therefore electric costs, as well as tower maintenance costs (changing of bulbs –labor and bulb cost) would be greatly reduced. The elimination of these same lights would also benefit the Federal Communication Commission (FCC) and the Federal Aviation Administration (FAA). Because the FCC is tasked with licensing towers under the National Environmental Policy Act (NEPA), they should welcome a means of reducing fatalities thereby increasing federal compliance with the Migratory Bird Treaty Act (MBTA). A similar situation exists for the FAA. By recommending L-810 steady burning red lights, the FAA advisory circular basically makes it difficult for tower owners and operators, not to mention the FCC, to comply with the MBTA. Removal of the L-810 lights from towers should be encouraged by both the FCC and FAA." See Gehring, Joelle and Kerlinger, Paul, *Avian collisions at communication towers: II. The role of Federal Aviation Administration obstruction lighting systems*, Prepared for: State of Michigan (March 2007)."

The published work by Dr. Gehring and Dr. Kerlinger, and the other research and data cited herein, should end the FCC's gridlock on making changes in lighting on existing towers and in the FCC antenna structure review, approval, and registration process to protect migratory birds. This should include changes for new towers in lighting, guy wires, and height as the authors note that their findings "provide managers and regulators with the first quantitative data for establishing best practices to minimize collision fatalities of migrating and other birds at federally licensed communication towers." Guy wires and height are discussed elsewhere herein.

Any implications that adopting new rules to comply with the MBTA (or NEPA or ESA) somehow might interfere with the FCC goal of fulfilling the nation's communication needs are without merit. Gehring and Kerlinger in Report II conclude that: "Changing lights on existing and new communication towers provides a feasible means to dramatically reduce collision fatalities at communication towers (two other methods include tower height reduction and guy wire elimination on new towers). One advantage of our findings is that lighting can be changed at minimal cost on existing towers and such changes on new or existing towers greatly reduces the cost of operating towers. Removing L-810 lights from towers is one of the most effective means of achieving a significant reduction in avian fatalities at existing communication towers." See, again, Gehring, Joelle and Kerlinger, Paul, *Avian collisions at communication towers: II. The role of Federal Aviation*

Administration obstruction lighting systems, Prepared for: State of Michigan (March 2007).

The authors cite a recent review of avian collision fatality data from studies conducted at 15 wind power facilities across the United States and at two sites in Canada was conducted to determine whether L-864 red flashing strobe-like FAA obstruction lights attract or disorient large numbers of birds leading to collisions of those birds with turbines. Fatality rates of night migrants at turbines 53.5 m to 117 m were examined and compared to turbines in the same turbine facility that were unlit. No large scale fatality events (>3 birds at one turbine in one night) were found at unlit turbines or turbines deployed only with L-864 lights and there were no significant differences found between fatality rates of turbines equipped with L-864 lights and turbines without such lights within the same facility. The authors concluded that "Unlike the combination of multiple sets of red flashing L-864 lights and steady burning red L-810 FAA obstruction lights at tall communication towers, the flashing lights on wind turbines in the studies examined herein do not appear to attract or disorient large numbers of night migrants." Kerlinger, P., J. Gehring, W.P. Erickson, and R. Curry. Forthcoming. *Federal Aviation Administration obstruction lighting and night migrant fatalities at wind turbines in North America: a review of data from existing studies*. Submitted to Wilson Journal of Ornithology in 2006.

This study again documents that strobe-like lighting, red FAA L-864's in this case, do not attract large numbers of birds at night and that fatalities at lit vs. unlit turbines did not differ statistically.

Another recent study has been published supporting the conclusions above and again documenting the importance of using strobe or flashing lights with a dark phase so as not to attract birds. In experiments with lights at ground level pointed at night into the sky, the researchers showed accumulations of birds around white, blue, and green solid lights, but not around flashing lights. Evans, W.R., Y. Akashi, N. Altman, and A.M. Manville II. 2007. *Response of night-migrating birds in cloud to colored and flashing light*. Report to Communications Tower Working Group.

Therefore, we fully support the FCC tentative conclusion that the use of medium intensity white strobe lights for nighttime conspicuity is to be considered the preferred lighting system over red obstruction lighting systems to the maximum extent possible without compromising aircraft navigation safety. This is based on the FAA's recommendation for such lighting where it will not compromise aircraft navigation safety, detailed in an FAA Memorandum of April 6, 2004. In that FAA document, the FAA concluded that: "Therefore, in consideration of the agreement between the FAA and the American Bird Conservancy, please advise your staff that medium intensity white strobe lights for

nighttime conspicuity is to be considered the preferred system over red obstruction lighting systems to the maximum extent possible without compromising safety. Please refer to Chapter 6, Medium Intensity Flashing White Obstruction Light Systems, AC 70/7460-lK for specific guidance."

The FCC Chairman had noted on March 21, 2000 in a letter to the Director of the U.S. FWS that "we will process expeditiously any required lighting modifications (as recommended by the FAA)." This is the letter cited above where the FCC declined to perform an EIS under NEPA. Three years have passed since the FAA made its lighting recommendations for the use of FAA L-865 medium intensity white strobe lights on obstructions to better protect birds, and yet the FCC has not acted to incorporate these
FAA findings and recommendations into its antenna structure approval and registration process as pledged by the FCC Chairman in 2000.

While we fully support the FAA Memo and the FCC tentative conclusion for the preferred use of medium intensity white strobe lights, we have previously advised the FCC and FAA that we believe that the science and practicality of aviation safety lighting dictates that if the white strobe lights cannot be used, the use of red strobes or pulsing or blinking lights is fully warranted from a bird protection standpoint. We state this because of problems the industry sometimes has with employing white strobes on communication towers because of local opposition, and because under the FAA guidelines, white strobes cannot be used in many situations. These latter situations include within three miles of an airport or in urbanized areas.

The critical factor, documented by the research cited above, is that red steady burning lights be avoided on all new towers and that these red steady burning lights be turned off or removed (retrofitted) on existing towers to preferably either white strobes or red strobes, or if not practicable, to red blinking lights.

In the U.S. FWS filed comments on this FCC NPRM dated February 2, 2007 that were signed by Acting Deputy Director Kenneth Stansell, the FWS states: "The scientific evidence also supports the conclusion that lights that flash or blink appear to be more important in minimally attracting birds than is the color of the blinking light (currently only white and red lights are allowed by the FAA as pilot warning colors on communication towers). To minimize the financial burden on tower owners and operators currently managing existing towers while minimizing impacts to migratory birds, the Service recommends that:

1) Once tower broadcast licenses expire and must be re-issued, tower lighting systems must be retrofitted preferably with minimum intensity, maximum off-phased white strobe lighting as a first option; followed by minimum intensity, maximum off-phased red strobe lighting; and finally with minimum intensity maximum off-phased red blinking incandescent lighting. Pending

FAA approval, all L-810 steady burning lights should also be removed as part of the retrofit.

2) All new towers must be fitted in decreasing order of priority with white strobes, red strobes, or blinking incandescent lighting as previously recommended. No L-810 side lights should be used.

3) When L-810 lights burn out, they should each be replaced in decreasing order of priority with white strobe, red strobe, or red blinking incandescent lighting as previously recommended.

4) From the time this rulemaking is finalized and published as regulation, we recommend that all towers be retrofitted within no longer than 5 years of that date (preferably a shorter duration) in decreasing order of priority with white strobe, red strobe, or red blinking incandescent lighting as previously recommended. No L-810 side lights should be used."

The U.S. FWS Tower Guidelines recognized the importance of strobe lighting. They provide:
"5. If taller (>199 feet AGL) towers requiring lights for aviation safety must be constructed, the minimum amount of pilot warning and obstruction avoidance lighting required by the FAA should be used. Unless otherwise required by the FAA, only white (preferable) or red strobe lights should be used at night, and these should be the minimum number, minimum intensity, and minimum number of flashes per minute (longest duration between flashes) allowable by the FAA."

The U.S. FWS in its 2000 Guidelines then noted concerns over the use of solid red or pulsating red warning lights at nights. The Guidelines noted that then current research indicated that solid or pulsating (beacon) red lights attract night-migrating birds at a much higher rate than white strobe lights, and that red strobe lights have not yet been studied. However, the recent research noted above has resulted in a much better understanding of the role of lighting and the colors of lighting in avian mortality.

As noted in Longcore et al. LPP filing in this NPRM, "Researchers hypothesize that the key factor in the reduction of mortality at white strobe lights is the break in flashes and not the nature of the flash itself. Gauthreaux, S.A., Jr., and C. Belser. 2006. *Effects of artificial night lighting on migrating birds*. In C. Rich and T. Longcore (eds.), Ecological Consequences of Artificial Night Lighting. Island Press, Washington, D.C. A decision to require red strobe/flashing lights with a complete dark phase and synchronized flashing would be supported by the existing scientific literature."

We also note that only one large bird kill has ever been reported at exclusively strobe-lighted towers and that one reported instance was linked to the presence of other lighting at ground level at the site. See the Longcore

et al. LPP filing in this NPRM. Steady burning lighting at ground level shining into the night sky, including the lighting on the exterior of auxiliary buildings can cause mass bird mortality events.
To reduce avian mortality and to eliminate mass mortality at towers, it is very important that accessory structures at towers not use steady burning exterior lighting shining up into the night sky. Any related structures should not be lit unless required by the FAA, and these lights should be shielded and kept to a minimal intensity. The largest single avian mortality event ever recorded at a wind turbine site (33 birds found) is believed to have been caused by the combination of a heavy fog in spring migration and the presence of several bright, sodium vapor lights on a substation building near a turbine. This was at the 44-turbine Mountaineer Wind Energy Project in West Virginia, where the building lights were eventually turned off after the mortality event and no such event has occurred since then. Kerns, J. and Kerlinger, P. 2004. *A study of bird and bat collision fatalities at the Mountaineer wind energy center, West Virginia*, annual report for 2003, Curry and Kerlinger, New Jersey. The authors also note that attraction of birds to these types of lights "has been reported repeatedly from sites in West Virginia and elsewhere." A total of 69 bird fatalities were collected by researchers, 47.8% from the one night. Only 12 of the 44 turbines are lit, and all 12 employ red strobe-like lighting.

The U.S. FWS Tower Guidelines provide that:
"10. Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site." And the comments by the FWS on this NPRM also urge the adoption of measures by the FCC to deal with this auxiliary lighting.

At the Foote Creek Rim (Wyoming) wind energy facility, average per guyed meteorological tower mortality was approximately 3 times higher than per turbine mortality. Lit and guyed meteorological and communication towers at turbine sites have more fatalities per tower than the bird fatalities per turbine of operating turbines, even those lit with red strobe-like lighting. Thus the necessity for keeping these permanent met and communication towers unguyed and unlit. Any structure can become lethal to birds in inclement weather if brightly lit and the FCC should act to require avoidance of lights on accessory structures at communication towers. See Young, D.P., Jr., W.P. Erickson, R.E. Good, M.D. Strickland, and G.D. Johnson. 2003. *Foote Creek Rim final bird and bat mortality report: avian and bat mortality associated with the initial phase of the Foote Creek Rim Wind Power Project,* Carbon County, Wyoming. November 1998–June 2002. Final Report. Western EcoSystems Technology, Inc., Cheyenne, Wyoming.

Longcore at al. in the LPP filing in this NPRM conclude that: "The FCC has proposed to take action that would reduce the mortality of birds at communication towers by regulating the type of lighting system on towers. Specifically, the FCC has correctly identified white strobe lights as the

lighting system for which there is most scientific evidence for a reduction of avian mortality. We furthermore conclude, based on recent studies, that flashing red or red strobe lights, both with a synchronized dark phase, would also dramatically reduce avian mortality. This action may be as simple as extinguishing the solid red lights currently at towers, leaving flashing red lights."

In the NPRM, the FCC requests comment on the adoption of additional lighting guidance in rules, revisions to other provisions of Part 17, or elsewhere and encourage commenters to suggest specific language. We therefore propose that the following specific language be adopted by the FCC under this NPRM as part of the antenna structure approval and registration process. This is the second part of our recommendations, following our recommendations in Part B) above:

1) If a new antenna tower structure must be built, and if the structure cannot practicably be kept under 200', the FCC shall require that medium intensity white strobe lights for nighttime conspicuity is to be considered the preferred system over red obstruction lighting systems to the maximum extent possible without compromising safety. See the April 6, 2004 Memorandum from the FAA Program Director for Air Traffic Airspace Management. These medium intensity white strobe obstruction lights for nighttime conspicuity for pilot safety are designated for use by the FAA as L-865 flashing lights in FAA Advisory Circular (AC) 70/7460-1, Obstruction Marking and Lighting, Chapter 6. The pulse rate should be kept as close to the FAA minimum requirement of 40 flashes per minute as reasonably possible, and the lights shall flash simultaneously.

2) In cases where the antenna tower is to be located in urban/populated areas, within three nautical miles of an airport, or where for other reasons of aviation safety or zoning requirements use of L-865 white strobe lights for night time conspicuity is not possible, and the applicant demonstrates such, medium intensity red strobe lights shall be used exclusively. These medium intensity red strobe lights for nighttime conspicuity for pilot safety are designated for use by the FAA as L-864 flashing red strobe lights in FAA Advisory Circular (AC) 70/7460-1, Obstruction Marking and Lighting, Chapter 5. The pulse rate should be kept as close to the FAA minimum requirement of 20 pulses per minute as reasonably possible, and the lights shall flash simultaneously.

3) The use of steady-burning red obstruction lights, FAA L-810, should be avoided.

4) All existing registered antenna structures that employ red steady burning lights (FAA L-810) for night time conspicuity shall be required to phase in the FAA preferred white strobe lighting (FAA L-865) system to replace red

steady burning lights. Existing towers that are both guyed and that use red steady burning lights should be made priorities for retrofitting with white or red strobe or strobe-like lights. If replacement of the L-810 lights with white strobes (L-865) is not possible for reasons of aviation safety or zoning requirements and the registrant demonstrates such, then the use of L-864 red strobe or fast blinking lights for night time conspicuity shall be employed. This should occur when steady burning red lights (L-810) on existing antenna structures burn out and need to be replaced. All such towers shall terminate the use of red steady burning lights for nighttime use within five years of finalization of this rulemaking. If the existing antenna tower structure already employs white (L-
865) or red strobe or fast blinking lights (L-864) exclusively for nighttime conspicuity, no changes need be made.

5) Accessory structures at towers should not have steady burning exterior lighting shining up into the night sky, and such structures should not be lit unless required by the FAA or because of security considerations. All such lights should be shielded and kept to a minimal intensity. Security lighting for on-ground facilities and equipment should be down-shielded to keep light within the boundaries of the site.

D) GUY WIRES.

In the NPRM at paragraphs 13-19, the FCC seeks comments on whether we should adopt any requirements governing the use of guy wires because of the potential impact posed to migratory birds, the FCC cites the September 2004 Avatar Report, concluding that, based on the studies it analyzed, it appears that "[t]owers with guy wires are at higher risk [to birds] than self-supporting towers." The FCC then notes that: "Avatar also stated, however, that at the time of its report there were "[n]o specific studies comparing avian collisions between guyed and self-supporting structures....Gehring's interim reports on the Michigan towers, presented subsequent to the Avatar report, suggest that towers with guy wires had more avian mortality than towers of similar height with no guy wires. In light of this record, we request comment on several questions relevant to whether these concerns are significant enough to justify the Commission's adoption of rules relating to the use of guy wires."

The concerns over the use of guy wires <u>are</u> significant enough to justify the Commission's adoption of rules relating to the use of guy wires.

The Gehring and Kerlinger Michigan study Report I included 12 guyed and 9 unguyed communications towers 380–480 feet tall, and three towers more than 1,000' tall that were all guyed. The authors stated that: "we determined that unguyed towers 116-146 m AGL experienced significantly fewer fatalities than towers of the same height that were guyed. Approximately 54 - 86% fewer fatalities were registered at guyed towers 116-146 m as opposed to

guyed towers >305 m. Nearly 16 times more fatalities were found at guyed towers 116-146 m in height as opposed to unguyed towers of the same height. Tall guyed towers were responsible for about 70 times as many birds fatalities as the 116-146 m unguyed towers and nearly 5 times as many as guyed towers 116-146 m. These data provide managers and regulators with the first quantitative data for establishing best practices to minimize collision fatalities of migrating and other birds at federally licensed communication towers....

Our results are consistent with the prediction that guyed towers are associated with higher bird fatality rates than unguyed towers. According to these data bird fatalities may be prevented by 69% -100% by constructing unguyed towers instead of guyed towers. These results are consistent with results reported by Kruse (1996), who plotted the location of migrant bird carcasses under three guyed communication towers. Kruse (1996) found a significant positive correlation between the locations of tower guy wires and bird carcasses, thus supporting the hypothesis that birds collide mostly with the tower guy wires....

Given the increasing number of communication towers in the U.S. and a growing interest in addressing the bird collision issue, this study is of particular importance (Shire et al. 2000, Erickson et al. 2001, FCC 2003, 2005, 2006). Our results show that bird fatalities may be reduced by 69% to nearly 100% by constructing unguyed towers instead of guyed towers, and 54%-86% by constructing guyed towers 116-146 m AGL instead of guyed towers >305 m AGL. This information is the most useful provided to date for mitigating and preventing avian fatalities at towers. This research provides quantitative information necessary to the FCC, the National Environmental Policy Act (NEPA) responsible agency that governs communication towers (FCC 2005). The present study also provides regulatory bodies, trust agencies, and other stakeholders with quantitative and statistically valid information regarding the relative risk of towers of different heights and towers with and without guy wires. This information can be directly applied to future tower design, siting, licensing, and permitting and would reduce substantially the numbers of fatalities of migratory and non-migratory birds resulting from tower collisions."

Besides the citation to Kruse above, the U.S. FWS comments on this NPRM note: "In a recent study at guyed communication towers in Wisconsin, Kruse (1996) found a high correlation between the specific locations of dead birds and their immediate proximity to guy support wires. The study strongly implicated the guy wires as the cause of death. Kruse, K. 1996. *A study of the effects of transmission towers on migrating birds*. M.Sc. thesis, Environmental Science and Policy, University Wisconsin, Green Bay. (1996).

In their comments, the U.S. FWS also refers to their Guidelines suggesting that guy wires not be used and notes that: "The MSP tower study (Gehring et al. 2006) provides the most definitive evidence yet available regarding the impacts of tall-guyed (> 1,000 ft AGL) and medium-height guyed (380-480 ft AGL) towers on migratory birds....Recommendation to FCC: These findings further reinforce the Service's second and seventh recommendations in our voluntary communication tower guidelines to avoid using guy wires whenever possible, and to construct towers no higher than 199 ft AGL, avoiding lighting. The Service recommends that:

1) the FCC — provided they have the authority — require tower owners and operators to collocate proposed new communication towers on existing towers or other tall structures such as water and electric transmission line towers, where practical. New towers should be designed structurally and electronically to accommodate the applicant"s antenna and antennas for at least 6 to 10 additional users, unless the design would require the addition of lights and/or guy wires to an otherwise unlit and/or unguyed tower. This suggestion coincides with the Service's first 2000 voluntary tower guideline.

2) The FCC establish by rule that communication towers, where practicable, be less than 200 ft AGL in height,

3) be of monopole or lattice design,

4) contain no guy wires and no lights, and

5) that this rule represent the environmentally preferred industry standard for tower placement, construction, and operation.

6) We suggest the FCC require this standard for the construction of all new communication towers, where possible, and the repair or re-construction of outdated or existing damaged towers, and the upgrade and modification of existing towers, again where monopole or lattice replacements can be used.

7) We suggest that the FCC require that towers no longer functioning be removed within 12 months of becoming inoperative, coinciding with our 12th voluntary guideline.

8) Where tower height and guy wires become an issue, the Service recommends more, shorter, un-guyed towers as opposed to fewer but higher, guyed and lighted towers in order for operators to provide equivalent service. This coincides with the seventh recommendation in our guidance where we suggest that a larger footprint is preferable to the use of guy wires.

9) Taller towers exceeding 199 feet in height, up to some 800+ ft AGL, do not necessarily need to be guyed. For example, an un-guyed, lattice tower near the campus of Catholic University, Washington, DC, is some 750 ft AGL in height. We recommend that the FCC work with tower owners and operators, environmental representatives, and agencies to agree upon a minimum communication tower threshold height above the 199-ft AGL level where towers would remain unguyed (i.e., monopole or lattice), recognizing that in areas subjected to hurricanes, tornadoes, williwaws and high winds, they may need to be guyed."

The hazard of guy wires to migrating birds has also been investigated by those working with wind power producers. West Inc. researcher Wally Erickson reported that "Based on computer models, for a bird with a one-foot wing span, the likelihood of collision with a 105 m high communications tower having 1.25 miles of guy wires is three times as great as the likelihood of colliding with a 65-m rotor diameter, 92 m maximum height wind turbine....empirical data from a wind energy project in Wyoming corroborated the higher per structure collision risk for a guyed structure compared to a wind turbine for songbirds. Erickson, Wally, *Bird Fatality and Risk at New Generation Wind Projects* (West, Inc.) 2004*,* in the Proceedings of the Wind Energy and Birds/Bats Workshop: *Understanding and Resolving Bird and Bat Impacts*, Washington, D.C. May 18-19, 2004. Prepared by RESOLVE, Inc., Washington, D.C., Susan Savitt Schwartz, ed. September 2004.

The computer modeled wind turbine was unguyed as are all wind turbines except for a few small, older turbines. The Wyoming wind energy project cited is at the Foote Creek Rim wind energy facility. The average number of birds killed per guyed meteorological tower was approximately 3 times higher than the per turbine mortality. The turbines are unguyed. Young, David P., et al., *Foote Creek Rim Final Bird and Bat Mortality Report: Avian and Bat Mortality Associated with the Initial Phase of the Foote Creek Rim Wind Power Project*, Carbon County, Wyoming. November 1998--June 2002. Final Report. January 10, 2003. West, Inc., (2003).

Other recent U.S. studies indicate that bird mortality at wind turbine projects varies from less than one bird/turbine/year to as high as 7.5 birds/per turbine/year. The latter fatality rate was at Buffalo Mountain, TN in 2003, where three unguyed wind turbines are in use, each with a 154' diameter, 3-blade rotor mounted on a 213' tall tubular steel tower. A guyed unlit 197' meteorological (met) tower constructed for the Buffalo Mountain wind plant had a mortality rate of 8.1 birds/year, greater than the average fatality rate for the three wind turbines. Mortality was monitored from October 2000, when construction was completed, through September 2003. Charles P. Nicholson, PhD., Tennessee Valley Authority, 400 West Summit Hill Drive, WT 8C, Knoxville, TN 37902-1499, personal communication, March 26, 2004. cpnicholson@tva.gov.

Guyed meteorological and communication towers at wind turbine sites appear to have more bird fatalities per tower than fatalities per turbine, even though the turbine tips fully extended are at higher above ground elevations and the blades are spinning. This appears to be related to wind turbines being unguyed and to their strobe lighting systems. This further corroborates the significant influence of guy wires and lights on avian mortality.

Longcore at al. in the LPP filing in this NPRM conclude that: "Higher mortality from guyed towers is expected because of the circling behavior exhibited by migrants under the influence of lights on towers. Furthermore, a study of bird mortality at transmission towers in Wisconsin found a high correlation between the locations of dead birds and guy wires, implicating collisions with guy wires as the cause of death. Deaths of birds at guyed towers is so common that when mortality occurs at towers without guylines, researchers take special note....recent studies furthermore confirm our literature review in concluding that guylines dramatically increase mortality at towers. For any given height, guylines increase bird mortality. Consequently, there would be scientific support for regulating tower design to avoid use of guylines where feasible. We conclude that this action would be secondary to a change in lighting design, but would be necessary to *minimize* avian fatalities at towers."

The scientists/authors also note that "Changing lighting on towers to strobe-type lights only would reduce the influence of guylines on nocturnal mortality by removing the attractive influence of lighting. Guylines would still kill birds through blind collisions and daytime rates would not be changed." Please see their comments on this NPRM for the citations documenting their conclusions on guy wires.

Based on the significant hazard guy wires on communication towers present to migratory and other birds, we suggest the FCC adopt the following measures in its antenna structure approval and registration process:
1) Guy wires should not be allowed on any new antenna structure under 200' in height AGL, unless the applicant can demonstrate extraordinary circumstances. For any antenna tower that is to be between 200' and less than 500' AGL, the applicant should not use guy wires unless certification is submitted by a qualified engineer that the structure cannot practicably be built as a monopole or of lattice design. In considering practicability, the applicant must demonstrate that guy wires are necessary because the tower cannot be built as a monopole or lattice structure because of safety concerns, significantly higher costs, or due to other engineering factors that require the use of guy wires.

2) If a proposed new tower will use guy wires for support and the tower and guy wires are proposed to be located in a known raptor or waterbird concentration area or in raptor or an area of waterbird daily movement routes, or in major diurnal migratory bird movement routes or stopover sites, or on towers known to cause daytime avian mortality, the tower shall use effective daytime visual markers on the wires to prevent collisions by these diurnally moving species.

3) 47 C.F.R. §1.1307 should be amended to require that an applicant for a new antenna structure must review and evaluate the following, at a minimum, concerning guy wires:
Is the proposed antenna structure to be constructed and operated so as to avoid, or at least minimize, the likelihood of causing fatalities to any migratory birds, and specifically U.S. FWS Birds of Conservation Concern, including avoiding the use of guy wires where possible? If guy wires are to be used, a NEPA EA would be required.

4) Existing towers that are both guyed and that use red steady burning lights should be made priorities for retrofitting with white or red strobe or strobe-like lights.

Finally, we note that the FCC in this NPRM has requested advice on balancing the various scientific, engineering, economic, and other factors, in determining what, if any, standards should govern the use of guy wires. Because of the potential costs and difficulties inherent in removing guy wires on existing towers, we have not advocated their removal. However, we do advocate that red steady burning lights (L-810) on existing guyed towers be turned off and replaced with white or red strobe or strobe-like lights.

We also note that under current FCC practices in its antenna structure approval and registration process, the industry applicants are given free hand in determining whether a tower is guyed or unguyed, despite any impacts to birds or other ecological considerations. Hence, decisions are now based and have been based in the past on economic considerations–what is the cheapest way to build out telecommunications infrastructure–or on what is otherwise most expeditious, with no requirements for preventing avian mortality or even taking it into consideration. This must change under NEPA, MBTA, and ESA as guy wires can impact ESA-listed species.

Fryer's Site Guide from 2002 notes that of 70,616 towers identified of 201'-400' AGL, an estimated 45% are guyed; for the towers from 401'-500', it was 75% guyed, and 501'-999', it was 87% guyed. Clearly, most towers do not need to be guyed. When towers are guyed, even similar towers at 380'-480' that differ only in being guyed or unguyed, the guyed towers kill 16X more birds than unguyed towers. "According to these data bird fatalities may be prevented by 69% -100% by constructing unguyed towers instead of guyed towers." Gehring and Kerlinger, Report I.

E) TOWER HEIGHT.

The FCC seeks comment in paragraphs 20 and 21 of its NPRM on whether to adopt any requirements relating to the height of communications towers in

order to minimize the impact of such towers on migratory birds. The FCC notes that "Avatar found that 'all other things being equal, taller towers with lights tend to represent more of a hazard to birds than shorter, unlit, towers.' FWS's voluntary guidelines recommend that communications towers be shorter than 200 feet if possible to avoid, in most instances, the requirement that the towers have aviation safety lights."

The research in Michigan by Dr. Joelle Gehring and Dr. Paul Kerlinger that is cited above compares bird mortality rates at 380'-480' unguyed towers, 380'-480' guyed towers, and tall guyed towers, all located in the same geographic area. These towers were not known to be susceptible to bird collisions prior to the study. Adjustments were made for searcher efficiency and scavenger removal, but these did not change the character of the raw results. The researchers conclude in their Report I that: "Our results also support the prediction that many more avian collisions occur at taller towers. Data indicate that 68%-86% fewer fatalities were registered at guyed towers 116-146 m AGL than at towers > 305 m AGL. Similarly, a long-term study at a communication tower in Florida detected a dramatic decrease in bird fatalities after the tower height was decreased from 308m to 91m AGL (Kerlinger 2000)....Tall guyed towers were responsible for about 70 times as many birds fatalities as the 116-146 m unguyed towers and nearly 5 times as many as guyed towers 116-146 m."

This study provides further evidence of the effects of height on chronic bird collisions with lighted, guyed towers. Bird mortality was much lower at the shorter towers with the same lighting type as the tall towers.

Longcore et al. in the LPP filing in this NPRM have conducted a new, detailed meta-analysis of tower height and bird collisions that is consistent with the findings as the Gehring and Kerlinger study and other published data in linking tower height to increased avian fatalities. They conducted a meta-analysis of communications towers that shows that bird mortality is positively correlated with tower height. Their study uses annual mortality estimates from 28 studies that met certain criteria. They found that tower height was strongly and significantly correlated with annual bird mortality. Even when shorter, unlit towers were removed from the database, they found a similar, significant relationship. See their filing in this NPRM and their paper that has been submitted for publication. Longcore, T., C. Rich, and S.A. Gauthreaux Jr. In review. *Design and siting of communication towers and rate of avian mortality: a review and meta-analysis.*

Their analysis linking tower height with increased avian mortality is consistent with the Gehring and Kerlinger study and with surveys of bird kills after taller towers have been replaced with shorter towers. For example, Longcore et al. cite the Crawford and Engstrom publication reporting

substantially decreased mortality following the reduction of a 1,008-foot tower to 284 feet. Crawford, R.L., and R.T. Engstrom. 2001. *Characteristics of avian mortality at a north Florida television tower: a 29-year study*. Journal of Field Ornithology 72:380–388.

In the Longcore submittal on this NPRM, they find that: "The statistically significant relationship between tower height and bird mortality is consistent with studies of the vertical distribution of nocturnal migrants measured with radar. Most migrants fly at ~1,500 feet, with a small proportion (2–15% in one study) below 300 feet during clear weather. Greater proportions of total migrants (26–46%, depending on the season and location) are found in the strata up to ~1,300 feet, although the strength of radar used in that study may underestimate the number of birds at higher altitude." See their submittal for the citations documenting these findings.

Longcore et al. conclude "We furthermore reiterate the correlation between tower height and avian fatalities. Minimization of tall towers through whatever technical means possible would serve to reduce avian mortality...The existing data would support the FCC adopting these recommendations as standards to better protect birds. Such standards for tower construction do not mean that towers exceeding 199 feet or any other height should not be constructed, only that the FCC would strongly encourage collocation and the construction of shorter towers to accomplish telecommunication goals while minimizing avian impacts."

Mass mortality events almost never occur at towers under 400'-500'. The taller towers kill many more birds, generally, then the shorter towers per tower. However, the FCC should be cognizant that there is evidence that the majority of fatalities at towers cumulatively occurs at towers from 200'-600' AGL, and that the Longcore et al. analysis submitted as part of this NPRM confirms this. Table 1 of their submittal details the estimated mortality broken down by tower height. Towers that are less than 400' account for 1.8 million of the 4.3 million estimated annual fatalities under their conservative estimates. This is because of the large number of towers at these lower heights. This data has clear implications for the FCC in acting on the bird fatality problem and indicates that tower lighting and guy wires, even on towers under 400', need to be adjusted to prevent avian mortality. Further, existing towers under 400'
also need to abide by the lighting requirements for extinguishing the red steady burning red lights (L-810).

In its comments filed in this NPRM, the U.S. FWS confirms the link to height and avian fatalities and makes a series of recommendations that coincide with their Guidelines for collocation, keeping towers under 200', and further

recommending that “Where tower height and guy wires become an issue, the Service recommends more, shorter, un-guyed towers as opposed to fewer but higher, guyed and lighted towers in order for operators to provide equivalent service.”

Based on the significance of tower height to avian mortality at communication towers, we suggest the FCC adopt the previously cited recommendations on collocating antenna on existing structures, keeping towers under 200' where possible, keeping towers under 500' unguyed where possible, and requiring existing and new towers to avoid use of red lights (L-810). We also suggest that the FCC adopt these additional measures in the FCC antenna structure approval and registration process for new antenna structures that will exceed 400' AGL:
An applicant for an antenna structure shall submit a written declaration to demonstrate why the tower they propose for construction must be constructed to exceed 400' AGL. The declaration shall contain documentation that the tower height chosen is necessary for their provision of cellular, TV, radio, or other telecommunication services, and why a tower of a shorter height would not suffice.

F) TOWER LOCATION.

In the NPRM at paragraph 22, the FCC seeks comment on tower location and migratory bird impacts. Such locations as wetlands, ridges, mountains, or other high ground may have “a differential impact on migratory bird populations"and comments are also sought on the impact on migratory birds of towers located in areas with a high incidence of fog, low clouds, or similar obscuration, or in proximity to coastlines and major bird corridors. The FCC notes that: “Although Avatar noted some degree of confidence within the scientific community that the ‘greatest bird mortality tends to occur on nights with low visibility conditions, especially fog, low cloud ceiling, or other overcast conditions, it reached no similar findings with regard to the effect that locating towers on ridges, or in wetlands, might have on avian mortality. Information is sought on the science on these issues and whether there any requirements the FCC should adopt on the basis of such studies.”

The U.S. FWS Tower Guidelines provide that:
4. If at all possible, new towers should be sited within existing “antenna farms” (clusters of towers). Towers should not be sited in or near wetlands, other known bird concentration areas (*e.g.,* state or Federal refuges, staging areas, rookeries), in known migratory or daily movement flyways, or in habitat of threatened or endangered species. Towers should not be sited in areas with a high incidence of fog, mist, and low ceilings.

7. Towers and appendant facilities should be sited, designed and constructed so as to avoid or minimize habitat loss within and adjacent to the tower "footprint". However, a larger tower footprint is preferable to the use of guy wires in construction. Road access and fencing should be minimized to reduce or prevent habitat fragmentation and disturbance, and to reduce above ground obstacles to birds in flight.
8. If significant numbers of breeding, feeding, or roosting birds are known to habitually use the proposed tower construction area, relocation to an alternate site should be recommended. If this is not an option, seasonal restrictions on construction may be advisable in order to avoid disturbance during periods of high bird activity.

The above provisions represent the application of the best science available to the migratory bird expert biologists at the FWS, and their Guidelines are based on that science. The U.S. FWS Director noted that "These guidelines were developed by Service personnel from research conducted in several eastern, Midwestern, and southern states, and have been refined through Regional review. They are based on the best information available at this time, and are the most prudent and effective measures for avoiding bird strikes at towers. We believe that they will provide significant protection for migratory birds."

We suggest that the FWS Guidelines, as modified in Section II above, be incorporated as part of the new rule governing the FCC review, approval, and registration of towers. We further suggest that to assure that tower construction does not adversely affect ESA-listed species or migratory birds, that each new tower application should be submitted to the U.S. FWS regional office for a determination of whether any threatened or endangered species are in the area and potential effects on such species, as well as a review by the regional office of potential migratory bird impacts, and whether the tower would be constructed and operated so as to avoid taking migratory birds. The FCC acknowledges in the NOI at page 14, that it is not expert in migratory birds and that the FWS is the lead Federal agency for managing and conserving migratory birds and possesses the requisite expertise. Given that the FCC acknowledges that it has no in-house capability to ascertain whether individual antenna structures may affect migratory birds or ESA-listed species, the FCC should require the U.S. FWS review and comment, especially on the location of a tower. Again, the FCC should assure that the applicant adopts the avoidance measures detailed in Section II above to prevent, or at least minimize, bird fatalities regardless of the tower location.

Obviously, the location of a tower can be a significant factor in bird mortalities and such location, along with other factors, should be reviewed by the regional biologists at the U.S. FWS. All towers located where migratory

birds might be killed should adhere to the measures mentioned herein to prevent fatalities, including the measures for collocation, avoidance of guy wires, use of only strobe lighting and avoidance of L-810 steady burning red lights, and minimization of tower height.

We also have proposed in Section II above that 47 C.F.R. §1.1307 be amended to require that an applicant must review and evaluate whether the proposed antenna structure is located in a migratory bird corridor, on a ridge, near a wetland, or in or near a wildlife area such as a refuge or park, or in any other area that attracts migratory birds, and if it is, this would trigger the requirements for an EA would be triggered. This EA would be conducted after the FWS regional review of the tower. The other requirements for the avoidance measures detailed in Section II above should be applied to all towers, but in cases where migratory birds may be affected, the FCC should closely review the application and assure full compliance.

G) MONITORING OF TOWERS SHOULD BE REQUIRED.

The FCC should require antenna structure owner/operators to scientifically assess avian mortality at each tower that is more than 500' AGL during at least one spring and fall migration season if the tower is guyed, and if the tower still employs red steady burning aviation safety lighting for night time conspicuity. If the tower owner/operator agrees to switch the L-810 steady burning red lights to L-865 or L-864 lights, then the monitoring requirement can be waived.

New towers that exceed 300' that are located where ESA-listed species or Birds of Conservation Concern species fly by should be required to be scientifically monitored during at least one spring and fall migration season for mortality if the towers are guyed and employ red steady burning red lights (FAA L-810) for night time conspicuity. Reports of the avian fatalities at these towers from on-the-ground searches during spring and fall should be statistically adjusted for predator removal and searcher efficiency.

These reports should be delivered to the FCC by the end of the calendar year in which they were conducted. The reports shall be available to the public.

Only with such systematic monitoring can the FCC fully comply with NEPA, MBTA, and ESA and better ascertain the mortality at towers under its jurisdiction and the full impact on migratory birds.. NEPA requires such analyses. Instead, the FCC uses the failure to document mortality at the vast majority of towers as an excuse for inaction, despite the scientifically documented incidences and studies of widespread avian mortality at towers.

Our specific proposals for monitoring are found in Section II above.

In the comments on this NPRM filed by the U.S. FWS, the FWS also recommends monitoring: "We recommend that FCC require through rulemaking a post-construction monitoring process that assesses and evaluates mortality and/or habitat fragmentation and disturbance at a statistically significant sample of communication towers of different height classes (i.e., unlit, lit, un-guyed, guyed, cellular, radio, television, DTV, emergency broadcast, and others) within the United States. Ideally, post-construction monitoring should be required for at least 3 years post-development, and mortality would be reported annually to the FWS as a condition of a scientific collecting permit."

H) WHY DO COMMUNICATION TOWERS CAUSE MASS MORTALITIES OF BIRDS AND WIND TURBINES WITH MOVING BLADES DO NOT?

A comparison of avian mortality at wind turbines with communication towers is instructive for fining solutions. Night migrating birds in spring and fall are particularly susceptible to collisions with structures such as communication towers and potentially wind turbines, especially on poor visibility nights when their celestial navigation systems become confused by the lighting on such structures. Red steady burning L-810 lights disorient the birds, the birds come to the lights on the tower, circle the tower repeatedly, collide with the tower guy wires, collide with each other, the tower, and the ground, die of exhaustion, or deplete their fat reserves. Mass mortality events exceeding a hundred birds occur all to frequently every spring and fall at communication towers, and mass mortalities of thousands of birds in one night are documented in the literature.

But such mass mortality has never been recorded at a wind turbine project of dozens, or even hundreds, of spinning turbine blades. Why not? A far greater percentage of wind turbines have been monitored than communication towers, so mass mortality of birds would have been noted. Bird mortality ranges from zero birds per turbine at some sites, to a high of 7.28 at three turbines at Buffalo Mountain, TN. Two years of monitoring data at the 44-turbine Mountaineer, WV site indicates an avian mortality rate at 4.8 birds per turbine in 2003. All of these rates have been adjusted upward for searcher efficiency and predator removal.

In May 2003, 33 dead birds were found at the Mountaineer, WV site after a foggy night, and researchers believe that sodium vapor lights on an auxiliary building led the birds to their death. Since the lights were replaced, no mortality events of more than a few birds in a single day have been recorded. These 33 birds represent the highest single day mortality ever recorded at an entire wind energy project, not just a single turbine.

The best scientific explanation for the absence of mass mortality at wind energy projects and relatively low per turbine kills even on forested ridges, is that wind turbines do not use red steady burning L-810 lights, do not light each turbine, do not use guy wires, are monopoles, and generally do not exceed 400' AGL. So, because of proper lighting, the lack of guy wires and monopole construction, and height not exceeding 400', communication towers kill a lot of birds and wind turbines do not.

This comparison supports scientific data cited herein that supports preventative measures to eliminate or minimize such mortality at towers by keeping towers under 200' where possible, not using L-810 steady burning red lights and using white or red strobe lighting where lighting is necessary, keeping guy wires off of towers where possible and using monopole construction, and minimizing the height of towers. These measures should significantly reduce the millions of migratory birds killed unnecessarily at tower structures.

VI. CONCLUSION.

We believe that the measures detailed in Items 1) through 18) above in Section II should be adopted by the FCC at the conclusion of comments on this Notice of Proposed Rulemaking on May 23, 2007. We believe these measures are necessary to protect migratory and other birds and to bring the FCC into compliance with NEPA, the MBTA, and the ESA, and are fully authorized under these statutes and the laws governing the FCC and its antenna structure program. They can be accomplished under the implementing regulations of these statutes.

We believe that all the measures and process changes suggested to bring the FCC into compliance with NEPA, MBTA, and ESA that will lead to the prevention of the killing of millions of birds at towers will not in any way adversely affect the provision and build-out of telecommunication services in this country and will have no adverse effects on the deployment of wireless services, on homeland security, and on public safety. Towers, like wind turbines, can be sited and operated without killing birds, or so as to, at a minimum, substantially reduce bird kills. The industry may have to pay more attention to bird kills, and this may cost more, but it is a necessary cost of business.

We believe the documentation submitted herein and previously establishes that bird kills at towers are biologically significant for many species of birds, and that many of these species U.S. FWS Birds of Conservation Concern. The overall fatalities of at least 4.3 million birds warrants action by the FCC, but the disproportionate effects on certain declining species makes action by the FCC essential. Tower kills comprise 4% to 5% of the total population of some

species–annually. Mortality of this magnitude is extraordinarily significant on a species basis and for individual populations.

We believe that the best science available supports the conclusion that communication tower height, lighting, and use of guy wires are the three most important factors contributing to bird kills that can be controlled by humans. Use of steady burning red lights (L-810) attract birds in far greater numbers than strobe lighting. That's why the FAA, the U.S. Fish and Wildlife Service, researchers and other scientists familiar with the issue, and conservationists all recommend the use of medium intensity white (L-865) strobe lights at night, with no other lights. If these cannot be used, the Gehring and Kerlinger Michigan research clearly documents that red strobes or blinking lights (L-864) be used without the red steady burning L-810 lights. Thus, it is of critical importance to migratory birds that new and existing towers not use the L-810 lights at night. This requires action by the FCC, including in dealing with these existing towers.

We believe that through the measures advocated in Section II above, the killing of birds at towers will be significantly reduced. The Gehring and Kerlinger Michigan Research Final Reports to the State of Michigan, both I and II, have been filed with the FCC as part of this NPRM. These Reports fully substantiate the measures advocated in Section II above and by the U.S. FWS in their February 2, 2007 filing in this NPRM.

The Gehring and Kerlinger Report I documents the necessity of keeping new tower as short as possible and unguyed as guyed towers of the same size killed 16 times more birds than unguyed towers. This makes it critical for the FCC to act to assure that antenna structures be collocated where possible, and new communication towers should be unguyed.

The Gehring and Kerlinger Report II concludes that "Our results demonstrate that avian fatalities can be reduced dramatically at guyed communication towers, perhaps by 50-70%, by removing steady burning L-810 lights. Changing lights on existing and new communication towers provides a feasible means to dramatically reduce collision fatalities at communication towers (two other methods include tower height reduction and guy wire elimination on new towers). One advantage of our findings is that lighting can be changed at minimal cost on existing towers and such changes on new or existing towers greatly reduces the cost of operating towers. Removing L-810 lights from towers is one of the most effective means of achieving a significant reduction in avian fatalities at existing communication towers. suggests that simply turning off the steady burning red lights (L-810) reduces avian fatalities by 50%-70%–and this regardless of whether the lights used are white strobes or red blinking lights authorized by the FAA."

The authors note that "By simply removing the L-810 lights from all communication towers, it is possible that more than one to two plus million bird collisions with communication towers might be averted each year, assuming that about four million birds per year collide with communication towers (estimate from USFWS 2000). Because guyed towers (or guy wires of those towers) now standing are not likely to be removed from the landscape, changing FAA obstruction lighting provides virtually
the only means of reducing fatalities at existing towers."

This makes it critical for the FCC to act to assure that existing communication towers end their use of red steady burning lights and use either white strobes or red strobes with the minimum intensity and number of pulses under FAA guidelines.

In its comments to the FCC on this NPRM, the FWS advises "In summary, the Service feels that immediate action needs to be taken to reverse these tower collision impacts on migratory birds....We strongly encourage the FCC to include in rulemaking the recommendations we are providing herein. If you do, avian collision mortality at communication towers should be significantly reduced, based on the best scientific evidence currently available....We encourage the FCC to include in rulemaking the recommendations suggested herein by the Service that will significantly reduce avian impacts but continue to allow providers full communication services and capabilities."

As we enter the full spring migration period for our migratory birds, we anxiously await FCC action to adopt these measures as recommended above and by the U.S. FWS to end most of the killing of these birds at communication towers under FCC jurisdiction.

Respectfully Submitted,

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